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1 April 1985

Worldwide Report

NUCLEAR DEVELOPMENT AND PROLIFERATION

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CONTENTS

ASIA

LATIN AMERICA

NEAR EAST/SOUTH ASIA

AUSTRALIA

SPECIALISTS INVITED TO WORK AT INDONESIA REACTOR

BK131525 Melbourne Overseas Service in English 1110 GMT 11 Feb 85

[From the "Australian Insight" program, moderated by Margaret Jollow]

[Excerpt] Indonesia has invited Australia to send a number of nuclear specialists to work at a new atomic research reactor being built in Java in order to dispel any feelings Australians might have that Indonesia might develop its own nuclear weapons. Indonesian offer was announced at the weekend by Australia's science minister, Mr Barry Jones. He has just completed a 4-day official visit to Indonesia. Richard Andrews reports from Sydney that the invitation is also being seen as a gesture of goodwill by Jakarta in an effort to improve relations between the two countries.

[Begin recording] [Andrews] The new Indonesian reactor is being built at Serpong in Western Java, and the project is the first step towards the construction of a chain of nuclear power stations to generate electricity. These would lessen the country's dependence on oil, gas, and coal supplies which could then be conserved and exported. However, there has also been some concern in Australia that Indonesia has ambitions to acquire nuclear weapons and the Serpong reactor could be used to develop them. As a result, Indonesia's minister of state for research and technology, Dr Habibie, issued the invitation to his Australian counterpart, Mr Jones, during his visit.

Mr Jones has relayed the offer back to Canberra, and it is expected to be taken up. Observers say that the Hawke government which has come under attack recently from its left wing for alleged inconsistency in its nuclear arms control policy is certain to welcome the Indonesian initiative. The initiative is also being interpreted as a sign that Indonesia wants to restore some of the good relations with Australia which were strained 10 years ago when Indonesian forces intervened in the former Portuguese colony of East Timor. [end recording]

CSO: 5100/4303

JAPAN

COMMISSION APPROVES MOX FOR NUCLEAR PLANTS

OW211139 Tokyo KYODO in English 1114 GMT 21 Feb 85

[Text] Tokyo, 21 Feb (KYODO)--The Atomic Power Safety Commission Thursday recommended that a boiling water reactor nuclear power plant in Fukui Prefecture can be allowed to use a mixture of uranium and plutonium (MOX) as its fuel.

Japan Atomic Power Company, the operator of the Tsuruga nuclear power plant, had been asking for government permission to use plutonium as fuel at the plant under its "plutonium thermal use" (pluthermal) plan.

The plan calls for the use of MOX made by mixing plutonium obtained through reprocessing of spent nuclear fuel and uranium.

Of the 308 bundles of fuel rods used at the 357,000-kilowatt No 1 generator at the plant, the company will replace two of them with MOX.

According to the recommendation submitted to the minister of international trade and industry, the MOX to be used at the Tsuruga plant is designed to yield the same burning effect as that of uranium fuel.

The use of such mixture fuel and the designing of the Tsuruga plant does not indicate any possibility of danger, the recommendation said.

With the recommendation, the company is expected to first test the use of the mixture fuel at the plant in 1986.

Kansai Electric Power Company earlier obtained a similar government approval on a pressurized water reactor at its Mihama nuclear power plant in Fukui Prefecture in 1982.

Because of troubles that occurred at the plant, Kansai Electric Power has not carried out its pulthermal plan.

CSO: 5100/4518

JAPAN

NUCLEAR DUMPING OBJECTIONS RESPECTED

OW011159 Tokyo KYODO in English 1035 GMT 1 Mar 85

[Text] Tokyo, 1 Mar (KYODO)--Japan will not go ahead with its plan to dump low-level radioactive nuclear waste in the Pacific Ocean off Saipan in disregard of objections by the Pacific islanders, a delegation from the Commonwealth of the Northern Marianas was assured Friday.

The visting delegation of 30 islanders from Saipan, Tinian and Rota met with Takao Fujinami, chief cabinet secretary, and Reiichi Takeuchi, director general of the Science and Technology Agency, and received the assurances of Japan's stance on the issue.

In a meeting with seven children representatives of the delegation, the director general of the agency that originally put the plan forward said he believed a friendly relationship with the Pacific islands is more important than the plan.

Takeuchi added that he personally believes that "those who destroy a flower garden are bound to be punished by God," implying his agency will respect the voices of Pacific nations opposed to the plan.

He was answering Simeon A. Santos, a Rota high school student, who had said the ocean is father and mother to his people.

Meanwhile, Chief Cabinet Secretary Fujinami met with Vicent M. Sablan, speaker of the House of the U.S. Commonwealth state, and other members of the delegation, and reminded them of Prime Minister Yasuhiro Nakasone's earlier pledge that Japan would not go ahead with the plan without the consensus of the Pacific nations.

The delegation arrived here Tuesday with a resolution by citizens against nuclear waste dumping that demands the Japanese Government "immediately and unconditionally abandon" the plan. The group is compoased of government representatives, congressmen, school teachers, students including primary school pupils, representatives of a women's league and church groups. They will stay here until Sunday.

CSO: 5100/4518

JAPAN

BRIEFS

LANGE'S ANTINUCLEAR POLICY SUPPORTED--Tokyo, 28 (KYODO)--The leader of the main opposition Japan Socialist Party, Masashi Ishibashi, sent a letter to New Zealand Prime Minister David Lange Thursday and supported his antinuclear policy, JSP officials said. In the letter, Ishibashi asked Lange to send a delegation from his Labor Party to a JSP-sponsored international antinuclear forum in Tokyo in September, the officials said. Ishibashi called for closer ties between JSP and the Labor Party to make the Asia-Pacific region free of nuclear arms, they said. Prime Minister Lange's government bans port calls to New Zealand by nuclear-armed or nuclear-powered warships. [Text] [Tokyo KYODO in English 0716 GMT 28 Feb 85 OW]

CSO: 5100/4518

PEOPLE'S REPUBLIC OF CHINA

NUCLEAR INDUSTRY MINISTER ON CIVILIAN USES

HK011340 Beijing JINGJI RIBAO in Chinese 24 Jan 85 p 2

[Article by Jiang Xinxiong, minister of Nuclear Industry: "Do a Good Job of Switching the Nuclear Industry to Civilian Uses"]

[Text] Since the 3d Plenary Session of the 12th CPC Central Committee, the CPC Central Committee has repeatedly stressed the need for the national defense industry to combine military with civilian uses and to switch its emphasis to serving the national economy and the people's livelihood. Recently, Comrade Deng Xiaoping made things still clearer, pointing out: "The national defense industry, being well equipped and strong in technology, we must make the fullest use of such a source of strength, directing it toward the whole national construction effort and the energetic development of civil industries."

Insisting on making reforms, enlivening the economy, and accelerating the pace in a switchover to civilian use are the primary tasks in the development of the nuclear industry. A switchover to civilian use in the nuclear industry chiefly calls for developing the uses of nuclear energy and nuclear technology in the national economy. At present, apart from stepping up efforts toward the proper completion of the Qinshan nuclear plant, we must, in line with the State Council's regulations on division of labor in building nuclear plants, actively tender for and take up nuclear island construction in relation to nuclear power stations in Guangdong, east China, northeast China, and so forth. We must uphold and carry out the guideline calling for a domestic nuclear fuel foundation and guarantee the supply of fuel elements to meet the demands of nuclear power development. We must actively develop new ways of harnessing nuclear energy and study the design of thermonuclear power stations, substituting nuclear power for oil and coal and providing heat for industrial production and urban life. We must energetically promote the use of nuclear technologies, covering reactors, accelerators, radioactive isotopes, and so forth in various sectors of the national economy. We must combine them with other sciences and technologies in developing a number of new sciences, new technologies, and new industries, such as nuclear medicine, nuclear agronomy, the science of nuclear environmental protection, nuclear analysis and gauging technology, nuclear tracing technology, nuclear automatic control technology, the nuclear irradiation-processing industry, nuclear electronic instruments manufacturing industry, and so forth. We must actively pass on to civil industrial departments advanced non-nuclear technologies used and developed in the process of building up the nuclear industry, such as extraction, ion exchange, high-efficiency [gao xiao 7559 2400] flocculation, synchro-electrical engine operation safety protection, heat pump evaporation, powder metallurgy, special processing, the use of manipulators, low-temperature superconduction, strong magnetism [qiang ci 1730 4318], high vacuum,

[gao zhen kong 7559 4176 4500] and remote control and remote guaging technology. We must stimulate the technical development of civil industries and raise the production level and improve economic results. We must also give full play to the comprehensive superior features of the nuclear industry that involve many fields of study, many kinds of work, and many industries. We must fully develop a comprehensive ability to link up or to form complete sets of equipment, as far as geology, mines, scientific research, design, the manufacture of equipment and instruments, building construction, and the installation of plumbing are concerned. We must offer overall technical cooperation and provide engineering services for cities, towns, and villages in working out plans and designs, manufacturing equipment and instruments and handling contracted construction projects, as far as the light and food industries, culture, education, public health and environmental protection are concerned. Or we may invest in technical personnel training, technology, and equipment and joint relevant areas or departments in developing aluminium, marble, granite, colored sands [cai se sha 1752 5331 3097] and other nonferrous metals and to-grade construction materials -- things which the state presently lacks.

In the past few years we have achieved definite results in our exploratory and developmental efforts in the above various fields where a switchover to civilian use is concerned. The value of output for civilian use has shown increases from 20 to 30 percent per year. More than 300 technological processes for special use have been transferred to civil industrial departments, with relatively satisfactory economic and social results achieved. But a very big gap still exists when a comparison is made with fraternal departments. Therefore, in the new year, we must take effective measures to bring about relatively great development of the nuclear industry in its switchover to civilian use.

First, we must uphold reform and enliven the economy, bringing about the transformation of the nuclear industry from a war industry to a type combining civilian and military uses, from scientific research and production to operation and development, from close-doorism to exposure to the domestic and international scenes. The nuclear industry in the past was solely concerned with war production and operated as an independent system. Its assignments were handed down from the higher levels. Its products were sold by the state on a quota basis. Special fund allocations were made available for it. Its material and equipment requirements were guaranteed on a priority basis. The switchover to civilian use has called for its operating on its own and making independent exploratory and operational research efforts and for its meeting market and consumer needs with regard to economic, technical, quality, and service levels. We must fully realize that the switchover to civilian use is in itself a penetrating reform of the nuclear industry, including a major change in the mix of products, the industrial structure, the economic system, operating and management methods and also ways of thinking and ways of doing things. Therefore, we must simplify administration and delegate power, revitalize enterprises and accelerate the pace of reform.

Second, we must strengthen leadership over the business of switching over to civilian use and guidance in developing an operating guideline. We must realistically give the business of switching over to civilian use primary attention in our whole work program, strengthen leadership over it and devote the main part of our energy and time to it. We must also properly work out plans for efforts and organize production and operating activities. We must concentrate a number of trained personnel with the courage to explore and with operating skills on developing products for civilian use. On the development front, any product developed must suit the needs of the market. Attention must be paid to making the most of a given unit's technical skills, favorable production conditions, or available local resources in order to lay claim to a backbone product. As far as the operating guidelines are concerned, we must focus on nuclear development as the main effort while engaging in multiple undertakings. We must develop products for civilian use with local, seasonal, and other factors in mind. The aim is to revitalize the economy in a relatively quick way.

Third, we must open up to both the domestic and foreign markets, and be good at using foreign capital, handling foreign trade, and bringing in technology, in order to serve the switchover to civilian use. Except for war products and production lines devoted to such products, we must relax security restrictions and strengthen cooperation with relevant areas in developing products for civlian use. This year we must make breakthroughs in using foreign capital, handling foreign trade, bringing in technology, and developing products for civilian use. We must pay close attention to available information about the international market, push products in specialized fields, cut down on warehouse inventories, and turn inactive "money" into active funds in order to provide funds for a switchover to civilian use and bring in technology.

Fourth, we must pool mass wisdom and realistically take care of problems concerning the development of products for civilian use.

CSO: 5100/4132

PEOPLE'S REPUBLIC OF CHINA

GUANGDONG NUCLEAR PLANT SIGNING CEREMONY HELD

HK181512 Hong Kong HSIN WAN PAO in Chinese 18 Jan 85 p 2

[Report: "Signing Ceremony for Guangdong Nuclear Power Station Held Today, Zaho Ziyang Meets Kadoorie"]

[Text] Beijing, 18 January--At 1600 Today, Premier Zhao Ziyang met with Kadoorie and his party in Ziguangge, Zhongnanhia.

Chairman Deng Xiaoping will also meet Kadooire and his party tomorrow.

The ceremony for signing various documents on the Guangdong Nuclear Power Joint Venture Company will be held in the Jiangxi Hall of Beijing's Great Hall of the People at 1730 this afternoon.

After the signing ceremony, Zhao Qingfu, deputy minister of water resources and electric power, will host a grand banquet on behalf of the Chinese side in the banquet hall on the third floor of the Great Hall of the People, which will be participated in by more than 300 people, to celebrate the signing of the contract of the above-mentioned joint venture company. Li Peng, vice premier of the State Council, and Kadoorie, chairman of the China Light and Power Company [CLP], will separately make speeches at the banquet.

On his arrival in Beijing yesterday, the CLP chairman said that for a long time he has been expecting cooperation between Guangdong and Hong Kong in electric power, and now he was very glad to see that this had been achieved.

William Stones, managing director of the CLP, said that this plan, which has been completed through 5 years' negotiations between both sides, will make the relations between Hong Kong and the interior parts of China take a more concrete form.

Mr P. Jacobs, secretary for Economic Affairs of the Hong Kong Government, held that nuclear power will benefit both Hong Kong and China's inland areas and will provide Hong Kong with more stable and cheaper electric power.

The Guangdong nuclear power station is China's first large-scale nuclear power station, and the largest Chinese-foreign joint venture project at present. After signing the documents and after being approved by relevant state

departments and registered in the State Industrial and Commercial Administrative Bureau, the Guangdong Nuclear Power Joint Venture Company will soon be established in Shenzhen.

The construction of the Guangdong nuclear power station will be formally started this year, and the station will go into operation 6 years later. The fulfillment of this construction will not only be conducive to Guangdong's economic development and Hong Kong's prosperity and stability, but will also accumulate valuable experiences for building large-scale nuclear power stations in China and play a positive role in China's development of nuclear power and the construction of the four modernizations.

CSO: 5100/4132

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

NUCLEAR ENVIRONMENT, TECHNOLOGY BOARD ESTABLISHED--Beijing, 6 February (XINHUA) --A nuclear environment and technolgoy examination board has been set up under the State Environmental Protection Bureau. The board is made up of experts in environmental science and nuclear technology. It is to meet the needs of the development and application of nuclear technology in China and protect the people and environment against atomic fallout. It will advise the bureau on policy. Bureau Director Qu Geping is board chairman. [Text] [Beijing XINHUA in English 1631 GMT 6 Feb 85 OW]

CSO: 5100/4132

BULGARIA

REPORT ON CONSTRUCTION OF 4-REACTOR NUCLEAR STATION IN CUBA

Sofia STROITEL in Bulgarian 13 Feb 85 p 8

[Article by Boris Metodiev: "A Leader in Cuban Atomic Power"]

[Text] In Spanish "cienfuegos" means 100 fires. This major industrial center in the Caribbean Sea has often been called, with justification, the Pearl of the South. In the gloomy years of Batista's dictatorship, a revolt of military sailors, who were inspired by Fidel Castro's movement, broke out here on 5 September 1957. The military fleet was truly an arsenal for the fighters in the Escalbran Mountains. A modest memorial marks the death of 25 young Cuban silors, who perished when their uprising was crushed by many thousands of troops.

Cuban comrades told me that Georgi Dimitrov's works about the united front and about youth were the first Marxist primer for the young revolutionaries in the provinces.

But the new glory of Cienfuegos is the development of chemistry, machine building, the cement industry, and power supply.

The first nuclear power plant in Cuba has been under construction for 2 years, right at the seacoast, 28 kilometers from the city. It will have four reactors, each with a capacity of 440 megawatts. The design and the equipment are unique: protected from the sea's waves, from earthquakes, in conformance with environmental specifics and tropical elements.

Current from the peaceful atom will flow from there at the end of 1987. Electrical power for the Isle of Freedom will be doubled.

Recently I met with a member of the Central Committee of the Cuban Communist Party, Carlos Julio Trujillo, the general director of the first atomic power plant in fraternal Cuba. This seasoned revolutionary has been working in construction for more than 36 years. He built the beautiful Havana Libre Hotel in the capital. After the revolutionary victory he guided the construction of major socialist sites. This experienced specialist shared the information that 6,500 workers are participating at the plant site.

Special technical high schools, professional academies, and a higher institute for training cadres for the power plant have already been opened at Cienfuegos. Executive and management cadres will be trained at courses and will have practical experience in Soviet nuclear power plants. More than 450 Soviet specialists are already helping their Cuban comrades and colleagues.

Comrade Carlos Trujillo spoke with exceptional recognition and respect about the work of the Bulgarian construction brigade named for Fidel Castro. The young Bulgarian builders, with their discipline, diligence, and organization, fulfill their international duty in a worthy manner; they strengthen their ties of friendship and amity with the Cuban people.

In his speech to the 15th Congress of Cuban Trade Unions a year ago, Fidel Castro said that if the Bulgarian builders were to come to Cienfuegos, the atomic power plant would have a victorious 1st of January (the Cuban revolution was victorious on this date in 1959).

Our builders are working on the 1st and 2nd reactors, and they often fulfill their labor norms at a rate of 300 percent. All the builders are busy with the 2nd reactor, since the word was passed along to finish the casing, fitting, pouring concrete, and puttying, and then give the site over to installing the Soviet equipment.

One group of our young men has already handed over a block of 92 apartments to the Soviet specialists. And before the end of this month another apartment block will be turned over. Another group is building concrete roads and squares. All the painting work at the plant and the domestic construction have been entrusted to the Bulgarians, who have taught 82 young Cuban builders and have named the new brigade for Camilo Cienfuegos. Now they are teaching a new brigade, which will bear the name of Ernesto Che Guevara. An agreement has been signed with a Cuban construction brigade from Havana which is named after the general secretary of the Beulgarian Communist Party, with a brigade of internationalist Cuban builders who had worked in Grenada, and with the Cuban brigade, called Cuban-Bulgarian Friendship, which is working at the Kozloduy Atomic Power Complex [in Bulgaria]. The relationships with the Cuban comrades are marvelous. Fifteen leading Bulgarians were on the rostrum at Revolution Square to see the 1st of May demonstrations. Twenty-three of our builders were honored with the Armando Maestre order (named for a Cuban construction worker who died in the revolutionary struggle). The brigade's leader, hero of socialist labor Aleksandur Peshev, was given the golden order of labor from the Republic of Cuba.

The Cuban people's respect and concern for Bulgarians is extraordinary. According to a revolution of the Cuban Government, our workers and their families here receive food free. Nurseries and kindergartens are free. They have been placed in sunny, comfortable apartments.

Excursions are organized to Havana, Varadero, Playa Jiron, and the Escambray Mountains.

Recently Cuban television completed a 1-hour film about the Bulgarian brigade. The diligence of Khristo Lukanov, Lyubomir Miranov, Iliya Punev, Todor Dimitrov, Emil Gruev, and others was especially stressed. The Cuban leaders at the site, Pedro Sanchez, Jorge Amado, Lazaro, and others, spoke very affectionately about them.

On the shore of the warm Caribbean Sea, at the foundations of the first Cuban nuclear power station, the labor of the young Bulgarian patriots is building a memorial of love from our nation to the unswerving creators and fighters of sunny, fraternal Cuba. Socialist internationalism is passing through the hemispheres in the name of indestructable friendship and solidarity between our nations.

12334
CSO: 5100/3010

ARGENTINA

DAILY SCORES ADMINISTRATION'S ANTI-NUCLEAR POLICY

Bahia Blanca LA NUEVA PROVINCIA in Spanish 29 Jan 85 p 6

[Editorial: "More About the Anti-Nuclear Policy"]

[Text] With the historic decision to use natural uranium for the entire nuclear fuel cycle instead of enriched uranium--which would have required adapting local industry to foreign technology--Argentina began a brand-new stage of deployment of all its human and historic possibilities. That decision constituted a reaffirmation of the technological autonomy that is now identified with political sovereignty.

Based on this orientation, the first steps taken by the CNEA [National Commission for Atomic Energy] could not have been more accurate. A line of reactors was designed and had a successful start-up. They met our strategic conditions like not only attending to national needs but the possibilities of the country. This aspect was of maximum importance to preserve the proposed and achieved degree of autonomy. It would have been wrong to present projec's that were impossible for Argentine technology or industry. The result would inevitably have been a return to foreign dependence which was being overcome.

The first powerplant constructed under these guidelines could not have yielded better results or have been more encouraging. The Atucha I powerplant went into operation in 1974 with a production capacity of 320 megawatts. It was fueled by natural uranium, moderated and cooled by heavy water, with an operational factor of 88.2 percent and a load factor of 85.5 percent in 1975. As General Osiris Villegas pointed out at the time, this reactor merited international recognition. The Atucha powerplant attracted the attention of the specialists since it was the first achievement by a developing country in this field. With this powerplant, Argentina fully entered the nuclear energy age and aimed toward a competitive future in advanced technology like no other country outside of the industrial north.

It was as if the entire nation mobilized and put to work its dormant energy for this great nuclear project. It was as if a great national intuition made all the sectors dynamic and activated a constantly delayed desire for greatness. The CNEA inspired several state and private universities and CONICET [National Council for Scientific and Technological Research] itself. Major industrial sectors did not fail to perceive the enormous possibilities offered

that were not available in any other field. Virtually no one remained aloof from the effort that was required. Progress was constant and, occasionally, spectacular. The time came when it seemed as if the road traveled was irreversible and there was no power or ideology or pressure that could change the collective will, take away the achievements or force an end to that decision. Argentina had come too far--by itself and by its own will and effort--and had committed too many public and private resources to return to frustration.

The military community was basically where the miracle had started. The scientific community fulfilled an absolutely indispensable function. The industrial community participated to the maximum in this entire effort of solidarity. The political community, in general, understood the importance of what had been done and what could be done. None of these sectors, no one in Argentina, thought that the country would at some point accept or adopt a self-destructive policy or one of regression in this field. It was believed that the great political decision that reflected the national determination to end the long stagnation and go forward, using the resources that the most revolutinary technologies put within its reach at whatever risk, was inflexible. It would establish the road to follow forever. Today, under the administration of Dr Alfonsin, we note that this is not and will not be true. This entire policy has been questioned or, rather, made impossible in practice.

Argentina was being redefined and shaped for international coexistence in the third millennium when the country decided to opt for natural uranium, managed to complete the nuclear fuel cycle, decided to install reactors to produce energy, invested massive funds to promote research and development of the right nuclear technology and gave priority to investments in order to have a heavy water plant as soon as possible. In short, Argentina, as a historic organism, assumed the risk and the challenge of a nuclear policy that, despite inevitable obstacles in a traditionally poorly led republic, would have consistency and continuity. It would insure a promising success worthy of support at any sacrifice. A new Argentina with new prospects was born.

Now all this magnificent effort seems to founder. The industry is being deactivated and dismantled. The best minds are forced to emigrate. The state denies the most indispensable budget allocations for a specialized bureaucracy. The entire country seems to be dying of economic suffocation. All this brilliant joint effort is like a dream that could have been but was not--in short, a new frustration and a new postponement of our national destiny. Social democracy proposes a republic different than this Argentina based on mastery of a revolutionary technology. Argentina, caught in the scheme of the current government, will repeat the same mistake it made in the last century when it remained stagnant in an agricultural plan and was left out of the second industrial revolution which formed the governing powers of the 20th century. It is as if history again passes us by without telling us anything. A country without a memory will never be capable of deciphering the signs of its time or of its future.

7717
CSO: 5100/2067

ARGENTINA

COSTANTINI: FUNDS AVAILABLE FOR UNFINISHED NUCLEAR PROJECTS

Buenos Aires LA RAZON in Spanish 17 Jan 85 p 19

[Article by Roberto Pascual: "Alfonsin Decided Nuclear Plan Will Have Priority"]

[Text] In an unusual meeting held yesterday in Parliament, an agreement was reached that will permit work to continue on Atucha II, paralyzed since the beginning of this year. The contracting enterprises for that nuclear powerplant--Coca II, Nuclar, Cimsa and Argaton--had stopped work, laid off 130 people and fired 135 last 8 January due to delays in the payment of work certificates by the state. It now owes them a total of 6 billion pesos.

The unusual meeting was held at the initiative of the union. Justicialist deputy Luis Santos Casale arranged the meeting attended by: deputies Guillermo Tello Rosas, UCR [Radical Civic Union], and Julio Cesar Araoz, Justicialist, chairman and deputy chairman, respectively, of the Energy and Fuels Committee; delegates and workers from UOCRA [Construction Workers Union of the Argentine Republic]; representatives of the contracting enterprises; the head of the CNEA [National Commission for Atomic Energy], Alberto Costantini; and officials from the national Secretariat of Finance.

At the beginning of the meeting, Costantini stated: "It is necessary to put the problem in focus. The current government inherited the project from the previous government when it was 2 years behind schedule. There was another year of delay due to budget problems. About 11 billion pesos in unpaid orders that will increase with the corresponding interests must be added to that 6 billion pesos owed. The high interests that are charged on the interbusiness money market kept the firms from trading the stocks they have which aggravates the problem."

The solution to the conflict began to be outlined yesterday, according to Costantini: "President Alfonsin made the decision in my presence that completion of the Atucha II and Arroyito projects will have top priority so that they can be tied to the National Interconnected Electrical System in 1989. He also made the decision to grant the CNEA the necessary funds to continue with research and plans for the nuclear fuel cycle and enriched uranium."

The businessmen present did not want just promises. They pointed out: "We need funds to pay wages. We do not have materials to continue the projects. Without the insertion of fresh money, there is no chance of resuming the projects."

They were not just promises, however. Costantini proposed: "Is there a chance that the enterprises will resume the work if the state promises to pay the January work certificates and the debt is renegotiated?" This idea was accepted. Eduardo Delleville, adviser to the National Directorate of Budget Planning, telephoned Norberto Bertaina, secretary of finance, to tell him about the proposal which received a positive response.

At the end of these consultations, deliberations resumed and a declaration that had been drawn up was read. This was the solution. It established the following: a) The signatories support the method of agreement to renegotiate payment of the pending debt. b) A special allocation of 300 million pesos by the CNEA with contributions from the National Treasury will be implemented to pay the January work certificates. c) The enterprises promise to rehire the fired and laid-off workers and not to fire others.

The workers, however, through UOCRA delegate Oscar San Esteban, reserved the right to continue demanding their wages. They receive between 133 and 164 pesos per hour. They emphasized that the main object of the negotiations being held--which will continue today at 1300 hours at the Ministry of Labor when they will meet with Minister Hugo Barrionuevo--was to keep their jobs and continue these projects of crucial importance. Juan Sucre Fernandez, secretary general of the Zarate UOCRA, stated: "If President Alfonsin now managed to start up 30 percent of the paralyzed industry, there would not be enough electricity to fuel it."

7717
CSO: 5100/2067

ARGENTINA

CNEA HEAD ON APPROVAL OF TLATELOLCO TREATY

PY151850 Buenos Aires NOTICIAS ARGENTINAS in Spanish 1705 GMT 15 Feb 85

[Text] Buenos Aires, 15 Feb (NA) -- Alberto Constantini, chairman of the National Atomic Energy Commission (CNEA), today stated that at the present stage of Argentina's nuclear development "to ratify or not the Tlatelolco Treaty would not affect or modify in any way the progress of the nation's nuclear plan," although he emphasized that the nation would enjoy certain benefits by supporting this treaty, which opposes the proliferation of nuclear weapons in Latin America. He added: "From the technical viewpoint, ratifying the Tlatelolco Treaty would give us access to technology which we do not have and would facilitate our cooperation with nations of high nuclear development."

Constantini also announced that the National Corporation of Nuclear Power Plants (ENACE) has changed its executive board, and that a call for bids has been made for the construction of the system of pipes at the Atucha II plant.

Speaking to NOTICIAS ARGENTINAS, Constantini indicated that the ratification of the Tlatelolco Treaty "is an foreign policy decision rather than a technological one and should, therefore, be made by the Foreign Ministry." The ratification of the Tlatelolco Treaty, signed in 1967, will be one of the subjects Presidents Raul Alfonsin and Ronald Reagan will discuss during Alfonsin's official visit to the United States, which will begin on 18 March. Asked whether the ratification of the treaty would have negative consequences on the plans to export Argentine nuclear technology to the rest of Latin America, Constantini downplayed this possibility.

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Constantini recalled the difficulties Argentina had to face in order to develop its own nuclear technology because of the sanctions imposed by those countries that had already made progress in this field over the past 2 decades. As an example of these difficulties, he mentioned the fact that Argentina had even been refused uranium enriched to 90 percent for the production of radio isotopes mainly used for medical purposes. Constantini asserted that "these obstacles prompted us to replace foreign technology with our own, developed through research." He stated that the ratification of the agreement, on one hand, "could allow the entrance of some technologies" into the country and, on the other hand, "since necessity is the mother of invention, nonratification would imply a new effort to substitute what we cannot obtain through that channel."

Moreover, Constantini announced that the new executive board of ENACE, the enterprise in charge of constructing the Atucha II plant, was established last week as follows: Santiago Pinaso, president; Carlos Colan, Norberto Japas, and Carlos Rinaldi, directors; as well as a director representing the German enterprise KWU. When he was

asked whether some of the jobs to be carried out by ENACE would be awarded to private consultant enterprises, Constantini said that "that is not what is being done. What we are doing is normalizing the mechanical engineering work that was being carried out by three enterprises working on a direct contract basis." He disclosed that a letter was sent today to 10 other enterprises which were on the list to do with work so that they "may supply further information on their backgrounds, stating whether they have any experience in similar jobs," in order to call a public bid to award these contracts. Constantini noted that "they will be given a chance to participate so as to allow them to become more technically advanced." He also noted the need "for important technologies to be developed each day by trained engineers and engineering companies." He stated that this step "constitutes the democratization in the distribution of this kind of work and the enforcement of laws and bids on public projects." Constantini said that "the reorganization of ENACE, which after 5 years in operation is showing some aging in mechanisms, is under study."

Constantini also requested that "those who are concerned" over the CNEA "should wait and see the results of my administration before criticizing me."

CSO: 5100/2068

BRIEFS

URANIUM ENRICHING BUDGET CUTS--(NA)--Uranium enriching research may fall behind schedule and if it does it is most likely that it will be due to delays in fund allocation, National Atomic Energy Commission (CNEA) Research and Development Director Mario Mariscotti said in an interview with a Buenos Aires periodical yesterday. Mariscotti explained that the Pilcaniyeu Group project, involving small 20-megawatt nuclear power plants, "would be able to produce low-cost electricity for towns of up to 30,000 inhabitants, and in some cases might also serve those regions trying to attract new industry." He denied a world tendency to reduce the use of nuclear energy and said he expected "Argentina's hydroelectric capability to triple within the next 20 years." [Text] [Buenos Aires BUENOS AIRES HERALD in English 15 Feb 85 p 7 PY]

CSO: 5100/2068

BRAZIL

PROGRAM DELAYS, PROSPECTS UNDER NEVES DISCUSSED

Sao Paulo VISAO in Portuguese 21 Jan 85 pp 50-51

[Text] Circumspectly, as befits a time of crisis, the Brazilian Nuclear Corporation (NUCLEBRAS) has completed another year--the 10th year of its existence. Created on 16 December 1974 under the Ernesto Geisel administration, it was the company's goal to set Brazil in nuclear step with the big powers. However, over those 10 years, the credibility and scope of the Brazilian nuclear program that it implements have been appreciably diminished, having been subjected to the criticism of the national scientific community, charges of administrative excesses and the effects of a deep recession.

From the company's beginnings, one would have never foreseen the difficult phase it would experience years later. The Brazilian nuclear program meshed perfectly with the climate of economic euphoria of the seventies, when Brazil was growing in the mold of a dependent model, looking abroad. Thus, rather than the alternative of a nuclear program of its own, the country chose to establish the Agreement on Cooperation in the Field of the Peaceful Uses of Nuclear Energy with Germany in June 1975, by which the Germans pledged to transfer to the Brazilians the whole spectrum of technology involved in the so-called "nuclear fuel cycle," which ranges from uranium prospecting to the operation of the electricity-generating plants.

The Germans gave assurance that the Brazilian package would be opened at a cost of $18 billion, at the time, for the installation of four electricity-producing plants, with the Brazilian Government's guarantee to immediately begin the plant construction project so that Angra-II, the first of the four plants in the agreement, would go into operation in 1987. (Angra-I, purchased from the American Westinghouse Company is not part of the NUCLEBRAS project.) However, the transfer of technology would be completed only after the opening of the fourth plant, originally scheduled for 1990.

Reduced Rate

Today the NUCLEBRAS Group, which employs 5,000 persons, has a holding company, six subsidiaries and one associate. (The subsidiaries are: NUCLEBRAS Isotopic Enrichment Corporation (NUCLEI), NUCLEBRAS Engineering

Corporation (NUCLEN), NUCLEBRAS Mining Auxiliary Corporation (NUCLAM), NUCLEBRAS Monazite and Associated Minerals Corporation (NUCLEMON), NUCLEBRAS Nuclear Power Plant Construction Corporation (NUCON) and NUCLEBRAS Heavy Equipment Corporation (NUCLEP). The associate is NUSTEP, the German Tsenndusen Entwicklungs Patentverwertungsgesellschaft GmbH Et Co Kg, holder of the centrifugal jet process.) According to the company's information, thus far, it has spent on the program close to $2.5 billion of the anticipated total, only $500 million of which was applied last year.

The year 1984 ended with Angra-II still not ready and Angra-III still in the foundation stage, although the majority of the equipment of both atomic plants has already been purchased. Part of it, incidentally, was manufactured by the NUCLEP subsidiary, which also built the lower part of the Argentine Atucha-II reactor.

The entrance into operation of the two Angra plants has been postponed until the end of this decade and the beginning of the next. As for the plants that were to have been installed in Peruibe and Iguape in Sao Paulo, their construction has been postponed and no schedule has been set for beginning the projects.

In the uranium prospecting area, on the other hand, the figures are promising. From a known reserve of 10,000 tons when NUCLEBRAS began operations, the country has leaped to 301,000 tons appraised and suitable for the production of uranium concentrate (yellow cake), being processed since 1982 and the Pocos de Caldas plant in Minas Gerais. However, the lack of funds is forcing the plant to operate at one-third its capacity of 500 tons per year.

Changing the Course

The delay in the timetable, the reduced rate of production and the curtailed plans can be explained in part by the recession. But there are other factors that contributed to jamming the gears of the program.

When a congressional investigating committee was established in the senate and the terms of the agreement ceased to be secret, a subtle change of course began. It was in 1979, in the early stage of the liberalization process under the Joao Figueiredo administration, that the company became exposed to criticism. The nuclear option for the production of electric energy would be contested with the argument that the country has a rich hydroelectric potential capable of generating energy at low cost. The centrifugal jet (jet nozzle) process adopted to enrich uranium, which had not even been tested commercially, was called into question. It was also revealed that the plant to be installed in Resende, in Rio, would enrich the ore at a cost three and a half times greater than the going price on the world market.

In early 1980, the government limited NUCLEBRAS' acceptance of foreign loans, reducing its budget. The cooling off had begun but even so, the company's foreign debt would reach $470 million by the end of that year. The change of course would only be completed with the dismissal of its president, Paulo Nogueira Batista, in January 1983. Civil engineer Dario Gomes was installed in February, in tune with the new era of austerity being experienced by Brazil after going to the International Monetary Fund (IMF). The essence of the program was not changed but its pace was reduced as a result of the new financial situation.

Wait for Decision

What will be NUCLEBRAS' prospects under a probable opposition government? Mines and Energy Minister Cesar Cals does not believe the company will be dealt a harder blow that could lead to its extinction. "The financial difficulties themselves caused repeated revisions of the plans and at the present time things are arranged in such a way that it would not be logical to expect any government to abandon what has already been done and give up the so necessary transfer of technology." According to Engineer Dario Gomes, nuclear technology should not be viewed only in terms of the production of electric energy: "It is much broader, and no country that seeks to be developed can relegate it to a secondary plane." Reviewing the state enterprise that he heads, he said: "It is a company in great difficulties but a successful one; a company that, at the end of 10 years, can show results within the context of the responsibilities that were entrusted to it."

The construction of two plants and the two fuel cycle units should absorb about $850 million by 1990. Since technological mastery will be assured only after the installation of the fourth plant, it is probable that the program will require much more. It will be up to the future leaders of the country to decide its fate.

8711
CSO: 5100/2064

BRAZIL

SCIENTISTS URGE REVISION OF PROGRAM

Sao Paulo FOLHA DE SAO PAULO in Portuguese 27 Jan 85 p 34

[Article by Tomas Irineo Pereira]

[Text] The criticism and warnings that erupted from Brazilian academic circles in 1975, when the country signed a nuclear agreement with West Germany and tied all of its atomic development program to it until the end of the century, remain intact. But now there is added strength from the hope of a government that is coming in with the air of new ideas, in addition to the experience of what has already been gained in those 10 years. "What we lost during that decade was the opportunity to do something better, with greater advantages for the country," observed physicist Jose Goldemberg, 56, one of the severest critics of the Brazilian nuclear program.

It seems clear in those academic circles that the nuclear program stemming from the agreement with Germany signed during the Geisel administration, will not go beyond its 10 years. "The consensus is so great in that area that there is no discussion; everybody expects that revision," confirmed Jose Zats, 43, also a physicist and professor in the University of Sao Paulo. "We do not have to tear up the agreement with Germany, which can be useful to us in some points, but radically revise the nuclear program that goes with it," commented Zats, who today is in charge of seeking energy alternatives for the government of Sao Paulo as coordinator of the Agency for Energy Conservation, an agency connected with the Sao Paulo Power Company (CESP).

The nuclear agreement with Germany was born in the glow of the era of "Brazil, a Power." The construction of eight nuclear electric power stations was agreed upon at a cost originally estimated at $10 billion. In the meantime, Jose Goldemberg--a native of Santo Angelo, Rio Grande do Sul, who is currently president of the three Sao Paulo electric power companies (CESP, ELECTROPAULO and the Sao Paulo Power and Light Company)--says that $4 billion have already been spent on that program, plus the $1.5 billion spent on the Angra-I plant, which went into operation at the end of last year and is not part of the agreement with Germany. (It was purchased from the United States in 1968 during the Costa e Silva administration.) And, thus far, of the eight plants programmed, only Angra-2 and Angra-3, in the state of Rio, are under construction.

The two scientists, exponents of the academic thinking of Sao Paulo (Goldemberg was president of the influential Brazilian Society for the Advancement of Science (SBPC) hold a similar position regarding what Brazil and the future government in particular have to do in the nuclear area: completely revise the program underway. Zats believes that the government should complete the construction of the Angra-2 and 3 plants and suspend the rest of the program. "At this stage, those two are already irreversible," he declared.

Goldemberg is a little stronger on this point. "Angra-2, which already has 95 percent of its equipment purchased and stored in Brazil, should be completed. However, Angra-3, which already has 50 percent of its equipment in the country, should be reexamined but, probably, will also have to be built." The underlying idea of what the two advocate and which more or less reflects the thinking of the academic community is that the country should become involved in a serious nuclear program, but with the participation of universities and national research institutions. "By purchasing ready-made plants and reactors, the government wasted the opportunity to have them developed in the country itself, thus preventing the generation of a national technology," observed Goldemberg critically.

The results of the strategy adopted previously are negative, he said, and the Figueiredo administration itself recognized that. "In recent years, the National Nuclear Energy Commission (CNEN) received the mission of actually promoting the national development of nuclear technology. Its action is described in the press as the implementation of a 'parallel' nuclear program, which is not correct. The CNEN program is not parallel, it is the nuclear program itself; that is, a program of national qualification, which is the only program of concern to the country," Goldemberg told the members of the Brazilian Center for Strategic Studies (CBEE), a military agency, on the 11th of last May.

The criticism of the "finished package" that the country bought from Germany is not the only criticism. The question of the technology selected is also of great importance. Brazil purchased the technology of plants fueled by enriched uranium but it does not possess any technology to enrich the uranium. Consequently, it also purchased a uranium enrichment plant, and again there came a closed "black box" without the nece'sary transfer of technology. Zats and Goldemberg support a new position, which also envisages research in the field of atomic plants fueled by natural uranium, as Argentina, China and India have done. Incidentally, both support cooperation with those countries.

Finally, there is another question of great importance: neither one of them is sure that Brazil will need nuclear energy some day. "Until the end of this century, we will certainly not need that energy," guarantees Goldemberg.

Physicist Jose Zats goes a bit further. He believes that Brazil may even leap over nuclear energy, going directly into the utilization of solar energy. "Today solar energy is already competitive in small units.

Research will certainly lead us to large plants operated by solar energy," he believes. However, that would not mean abandoning research in the area of atomic energy. Except that, declares Zats, with the Angra plants, that program can be pursued in the area of nuclear reactors. In addition to those plants, the government conducts nuclear research in the Aeronautics Technological Center (CTA) in Sao Jose dos Campos, 100 kilometers from Sao Paulo, and in the Energy and Nuclear Research Institute (IPEN) of the University of Sao Paulo. If pursued seriously, declares Zats, the research in those three areas can give Brazil the nuclear technology it may need for its future.

Country Always Conducted Research, Says Goldemberg

In the lecture he delivered to the military members of the Brazilian Center for Strategic Studies (CBEE) last May, Jose Goldemberg called attention to a little-known fact: Brazil has a tradition in nuclear research, both in the purely academic area and in the actual transfer of that knowledge to private industry. Below are excerpts of his lecture:

"Contrary to what is believed, nuclear energy research in Brazil was always quite developed, inasmuch as that was an area of scientific development favored among us. Not favored in terms of government appropriations but by the very history of national scientific development which stems from the type of scientists who came to Brazil before World War II. Due to the political problems on the European continent, resulting from the rise of Hitler and Mussolini, many scientists came to Brazil; of those immigrants, some were Jews and others were not. As a result of that, biology developed more in some countries, chemistry in others, and here in Brazil, nuclear energy--with the coming of Professor Wataghin, an Italian, from the original Enrico Fermi group. Without any boasting, the work that was done in that area is of an international level.

"In the fifties, we were operating complicated nuclear accelerators in Sao Paulo and in the operation of those accelerators we made contributions to the existing knowledge in the area. At that time, especially in the Institute of Atomic Energy of Sao Paulo, we began the construction of small nuclear reactors, which made it possible to master the basic knowledge for designing reactors."

8711
CSO: 5100/2066

BRAZIL

HEAVY RAINS THREATEN ANGRA I NUCLEAR PLANT

PY041556 Sao Paulo FOLHA DE SAO PAULO in Portuguese 2 Mar 85 p 17

[Excerpt] Heavy rains fell again yesterday over Angra dos Reis, on the southern coast of Rio de Janeiro State. This has interrupted the Rio de Janeiro-Santos highway, the BR-101, which has had 32 landslides so far. The most serious accident occurred at km 130 where 200 meters of highway were washed away, leaving the Angra I nuclear plant practically isolated. According to information circulating through Brazilian Electricity Enterprise internal channels, but not released to the outside, the plant stopped operations on 24 and 26 February, and it is now operating on half power, generating 400,000 kilowatts per day. There is speculation that the nuclear refrigerating pipes may have serious problems. The director of the nuclear division of Furnas Electric Company, Luis Cals, has said that the Angra I nuclear plant is operating normally, without any problems, generating electricity to meet the needs of the center-south electricity supply system. The electricity being generated varies from 75 to 95 percent of the Angra I plant's full power of 626 megawatts.

CSO: 5100/2076

BRIEFS

GOMES DEFENDS PLANT CONSTRUCTION--Rio--Despite admitting that thus far the company has not managed to "completely absorb" nuclear technology, which can only be achieved with the construction of four more plants and the development of the fuel cycle, the president of the Brazilian Nuclear Corporation (NUCLEBRAS), Dario Gomes, 56, said that he is very satisfied with the entrance into operation of Angra-1. Gomes defends the construction of all the eight plants established in the agreement with Germany, declaring that Brazil mastered the technology of building hydroelectric plants only "because it built 232 plants. It is only by building that we will be able to absorb the technology." The president of NUCLEBRAS said that the problems of Angra-1 will not be repeated in Angra-2 and 3 because the reactors are different. "Angra-1 is from Westinghouse and Angra-2 and 3 are part of the agreement and their reactors are similar to 16 others that are operating successfully in other countries." According to Gomes, Angra-2 has 62 percent of its civil engineering work completed, 85 percent of the foreign and 80 percent of the national equipment delivered, and 90 percent of the engineering services completed. On the other hand, Angra-3 will have its concrete work completed in April and, today, it has 70 percent of the foreign and 40 percent of the national equipment delivered, and 70 percent of the engineering services completed. The government will have to spend $2 billion more in order for them to go into operation in 1990 and 1992, respectively. [Text] [Sao Paulo FOLHA DE SAO PAULO in Portuguese 27 Jan 85 p 34] 8711

URANIUM RESERVES STATUS--According to Paulo Lima, the director of NUCLEBRAS, from 1975 to July 1984, the company invested $183 million uranium prospecting and research, which comes out to an average of $607 invested per ton discovered and assessed. Brazilian uranium reserves were 11,040 tons in 1974. After a decade of intensive work by NUCLEBRAS' geological teams, there has been an increase of 2,630 percent. Today Brazil has the fifth largest uranium reserve in the world, surpassing Canada, Australia and South Africa. If one adds the production of Pocos de Caldas Plateau Complex and that from the establishment of the Itatiaia and Lagoa Real mining-industrial complexes, to which eventually may be added the production of Gandarela (Minas Gerais) and Figueira (Para), Brazil could reach a production of around 3,600 tons of uranium concentrate per year in the next decade (1985-1995). [Text] [Sao Paulo MUNDO ELECTRICO in Portuguese Dec 1984 p 23] 8711

FRG CREDIT FUNDING--The financial director of NUCLEBRAS, Wenceslau Magalhaes signed a foreign credit contract in Frankfurt, West Germany, in the amount of $60 million. The contract was signed with a consortium of banks headed by the Deutsche Bank AG. The transaction will have a total term of 9 years with a grace period of 5 years and comprises phase two of the program of estructuring the Brazilian foreign debt. [Text] [Sao Paulo MUNDO ELECTRICO in Portuguese Dec 1984 p 23] 8711

URANIUM CONCENTRATES--The Brazilian Nuclear Corporation [Nuclebras] this week exported [to] the United Kingdom approximately 60 tons of uranium concentrates produced by the Planalto mineral and industrial complex in Pocos de Caldas, Minas Gerais. On releasing this report today in Rio de Janeiro, Nuclebras stated that last year it exported approximately 180 tons of this produce to Argentina, and almost 88 tons to France. [Text] [Brazilia Domestic Service in Portuguese 2200 GMT 15 Feb 85]

CSO: 5100/2071

COLOMBIA

BRIEFS

AGREEMENT WITH SPAIN--Bogota, 14 Feb (AFP)--Colombian President Belisario Betancur today sanctioned the law approving a complementary cooperation agreement on the use of nuclear energy for peaceful purposes between Spain and Colombia. The agreement was signed in Bogota on 20 December 1980. [Summary] [Paris AFP in Spanish 2319 GMT 14 Feb 85 PA]

CSO: 5100/2073

VENEZUELA

'VENEZUELAN GROUP' INVOLVED IN NUCLEAR SALES TO LIBYA

Caracas EL DIARIO DE CARACAS in Spanish 20 Feb 85 p 16

[Text] A cable from the Italian news agency ANSA in Rome, dated 16 February, reports alleged negotiations 5 years ago between "a Venezuelan group" and the Libyan Government of Mu'ammar al-Qadhdhafi, negotiations aimed at supplying the latter with "nuclear material and technology" for military uses.

The cable gives no information making it possible to identify individuals in the so-called "Venezuelan group." Nor does it provide details on the group, its location in the economic or political sphere, much less the origins of the nuclear material and technology.

The curious information becomes even more complicated by virtue of the fact that the cable states that the middlemen in the alleged negotiations, Lebanese Anthony Gabriel Tannouri and Italian Arnaldo Capogrossi, seem to be involved in drug and arms trafficking respectively.

All the information given by the ANSA dispatch is apparently taken from the daily newspaper IL MONDO, published in Rome. The latter published the information in the summary of news material to be published after 16 February, the date of the cable from the Italian news agency.

Cable in Question

In order better to convey this strange information, the following is the text of the cable translated into Spanish:

"According to an article soon to be published in the coming issue of daily newspaper IL MONDE in Rome, which has provided a summary, a secret contract was reportedly concluded in 1980 between a Venezuelan group and the government of Libya for the purpose of providing Tripoli with nuclear material and technology earmarked for military use. In sum, Libya has reportedly tried to buy on the unofficial market "everything necessary to assemble a limited number of atomic bombs."

Middlemen involved in the agreement, IL MONDE writes, included "a Lebanese financier named Anthony Gabriel Tannouri, arrested a few days ago in Paris on a warrant issued by Italy for drug trafficking," and an Italian, "Arnaldo Capogrossi, whose name appears in the investigation into arms trafficking being conducted in Trent by Judge Carlo Palermo."

IL MONDO adds that the operation from 1980 to 1983 involved similar Italian and foreign individuals, "who worked in high figures until they reached the final price: $1.2 billion for atomic bombs each having a power equal to that which destroyed the city of Hiroshima."

11,464
CSO: 5100/2078

VENEZUELA

CONGRESSMEN DENOUNCE SHIPMENT OF STRATEGIC MINERALS ABROAD

Caracas EL DIARIO DE CARACAS in Spanish 15 Feb 85 p 25

[Text] Rafael Elina Martinez (MAS [Movement Toward Socialism]), chairman of the Chamber of Deputies Environment and Territorial Development Commission, has referred to the shipment of tantalum and other strategic materials from the Amazon Federal Territory to neighboring countries. He reports that a considerable number of private flights are being made to foreign countries from the Amazon region and are not subject to any control by Venezuelan authorities.

The situation is so serious, he adds, that a French citizen, along with other individuals of the same nationality, was found engaged in measuring work in the area and it was later learned that he was one of the heads of the French Atomic Energy Office. The group of foreign officials had not gone through any customs to gain entry into the country.

Martinez pointed to the existence in the Amazon region of numerous airports that are not controlled in any way and used by small planes operating out of Brazil and Colombia. The planes bring equipment which, according to locals, includes geological and measuring instruments. In addition, there is constant travel from La Cariota to the Amazon region via Caicara, without going through the Puerto Ayrcucho airport, all of which leads one to presume that the Amazon territory is the victim of intense looting and, as Deputy Alexander Luzardo (MEP [People's Electoral Movement]) stated, "intensive" smuggling of strategic materials goes on, affecting the country's sovereignty. An appeal has been made to the minister of defense to initiate the essential investigation and maintain vigilance in the zone. It has also been learned that there are ties with foreign companies that deal in these strategic minerals and the minister of defense is aware of the situation.

Luzardo referred to the report drafted about 2 years ago by Capt Marino Blanco, assigned to the Amazon territory, a report submitted to the National Congress and reporting that an organization made up of some 150 persons, called New Tribes, was financed by General Dinamite [sic] in the United States, the same firm that makes the F16 fighter jets. That multinational firm supplied them to the organization, which was allegedly involved in missionary work in our country, along with all kinds of logistical support, mainly communications.

Luzardo stated that New Tribes is basically accused, among other things, with making an evaluation and survey of the Amazon, Bolivar and Apure zones, specifically referring to strategic resources.

He recalled that in 1980, as minister of defense, Gen Rangel Burgoin ordered a summary investigation before a military tribunal in the State of Bolivar. The report containing the results of the inquiry came into the hands of President Luis Herrera Campins and apparently died there, without the National Congress ever obtaining it. It is known that on logistical matters, New Tribes has superior resources to those of the Venezuelan Government in the area, especially in terms of communications equipment. In addition to tantalum, other strategic minerals such as thorium, cobalt silica and uranium could be being extracted illegally and smuggled into Brazil and Colombia.

11,464
CSO: 5100/2078

BANGLADESH

BRIEFS

ATOMIC RESEARCH FUNDED--The International Atomic Energy Agency (IAEA) will give about one million US dollars to the Bangladesh Atomic Energy Commission as its technical assistance for research and development (R&D) in peaceful uses of Atomic Energy. Dr M. Mizanul Islam, head of the International Affairs and Technical assistance Division of BAEC disclosed this in a seminar which was held at Savar on Wednesday. The seminar attended among others by Mr M. Emdad Hossain, Director-General, Atomic Energy Research Establishment, Dr M. Ahsan, Mr A.S.M. Enamul Hoque, and Dr Sved Reza Hossain. /Text/ /Dhaka THE BANGLADESH OBSERVER in English 24 Jan 85 p 1/

RADIOISOTOPE PRODUCTION--Bangladesh will start production of radioisotopes from the middle of this year, reports BSS. At present the entire requirement of radioisotopes in the country for agriculture, industry and medicine is met by imports. Dr M.A. Mannan, Member, Bangladesh Atomic Energy Commission (BAEC) in his talk on "application of atomic energy in Bangladesh" presented at the international conference on physics and energy for development now being held in Dhaka, said that with the operation of a research reactor by the middle of this year the production of radioisotopes will start. The three megawatt research reactor is being installed at the Atomic energy reserach establishment Savar, about 40 kilometres north of the capital. In addition to the production of radioisotopes, the reactor will be utilised by nuclear engineers, scientists and technologists for the nuclear power programme, and also for doing research in various branches of nuclear science and technology. /Text/ /Dhaka THE BANGLADESH OBSERVER in English 29 Jan 85 p 1/

CSO: 5150/0029

EGYPT

OPPOSITION TO NUCLEAR POWER PLANTS DISCUSSED

Cairo MAYU in Arabic 17, 24, 31 Dec 84

[Editorial by Muhammad Rashwan in the Column "Peaceful Dialogue"]

[17 Dec 84 p 9]

[Text] In the first interpellation by the Wafd Party, the opposition raised objections to the government's plan to build nuclear power plants. I will avoid going into the constitutional aspects of this interpellation, which were addressed by the opposition and the National Party. This matter was settled by Assembly Speaker Dr Rif'at al-Mahjub, and it was well done so that the interpretation of the constitutional law could not lead to a charge of abridging the noble right of a member of the People's Assembly, even though this concept was spoiled by the arbitrary way in which the right was used since the opposition would have gained more from having the interpellation dropped from the agenda than from having it continue.

The preparation for this interpellation was good from the parliamentary standpoint. The opposition and the National Party were given the opportunity to debate it over three sessions. Moreover, the government did its duty and faithfully presented the details of this issue before the People's Assembly after the ministers of electricity, planning, and oil had spoken.

The objectives of the interpellation was not to embarrass the government through criticism because the interpellation was free of specific accusations concerning any acts that may have been committed by the responsible minister in violation of the constitution, the law, or the plan. The interpellating member declared his trust in the minister of electricity. I believe that the opposition's objective was to show its skill at political maneuvering within the People's Assembly and to create a public opinion issue that could escalate into popular pressure to force the government to reconsider and postpone the construction of these nuclear power plants, as has happened in West Germany with the Green Party. This is clear from the demand issued by the opposition calling for a referendum, as well as by the attention devoted to this matter by AL-WAFD newspaper and the conferences that have been held by the party.

The points on which the interpellation was based can be summarized as follows:

--The danger of the leakage of nuclear radiation from these plants to the population, as occurred with one reactor in the United States.

--The huge construction costs of nuclear plants, which increase debt burdens.

--The existence of alternative energy sources, coupled with the fact that the world has begun to stop building these nuclear power plants.

What I hold against this interpellation is its lameness, because it dealt with the issue from the economic and social standpoint and intentionally ignored the issue of national security, the strategic balance in the Middle East region, and the connection between this balance and the construction of power generating stations based on nuclear reactors. Dr Isma'il Sabri 'Abdallah touched on this matter in the newspaper AL-AHALI, and we will devote our next article in the series exclusively to this topic.

We are well aware that for many years Israel has employed all its political powers and intelligence organizations against the friendly states that have expressed their readiness to help Egypt build these reactors to place obstacles in front of us. Their goal is to prevent the construction of nuclear stations in Egyptian territory. The incident of the nuclear power reactor in Iraq and the blowing up of some of its components that were ready for shipment in French ports are not unrelated.

Israel is undoubtedly happy with this interpellation, although I would never think badly of the opposition and its honorable patriotic purpose on such an issue. It is possible that the factor of political maneuvering to stir up public opinion outweighed extremely delicate and sensitive matters pertaining to Egypt's nuclear program for peaceful purposes or the completion of the nuclear power infrastructure in Egypt.

Possible Risks

The possibility of the leakage of nuclear radiation is without doubt an important issue which I do not treat lightly. However, if we take this issue at face value, world scientific and technological progress has not achieved such amazing levels of performance. The smoke of factories, cars, airplanes, mines, and chemical and gas industries has begun to threaten the health of humanity. And while possibilities of disasters exist with these technologies, no one can demand that they be destroyed. Scientists are sparing no effort to minimize these dangers, and science stops at no bounds.

We might also mention that Stevens, the inventor of the steam locomotive, faced attacks by public opinion and the farmers because the locomotives threatened people and livestock. In spite of this, railroads have now become one of the major elements of the transportation infrastructure through the world.

Last month I attended the International Conference on Highway Safety and Accidents, which was held in Vienna and was attended by 60 states and 15 international organizations. The speakers included scientists and experts from all parts of the world. They said that vehicle accidents have become an incurable epidemic. Each year some 5 million citizens suffer major or minor injuries or are killed in traffic accidents. In one paper entitled "Costs and Net Worth," a Swedish expert said that his state loses billions of dollars annually as a result of automobile accidents, and this cost is borne by the national economy and the citizens. Scientists and experts are working hard through exhaustive research in both technical and legislative fields to reduce such accidents. However, no one is calling for an end to the manufacture or use of automobiles. We have not heard that the dangers arising from nuclear reactors have threatened human life to one-hundredth the extent that automobile accidents do. The objective alternative to what the opposition has proposed is that it call--as is its right--for submission of the construction contracts for these nuclear stations to the People's Assembly so that it can verify the safety and protection provisions and the responsibility of the companies brought in to maintain and monitor the plants and train Egyptian scientists in these areas.

As for the statement that Europe has stopped building nuclear reactors because of the risks, Europe has accepted the deployment of American nuclear missiles in its own territory, and these pose a far greater danger than nuclear power plants. Europe is still building the plants, but it reduced its plan after it achieved a margin of safety in power generation and ceased to be completely dependent on oil. Its situation was helped particularly by the 25-percent decline in oil prices and the arrival of Siberian natural gas to Europe. In addition, all the territory of the European states is densely populated and the Europeans do not have the deserts that make up 96 percent of Egypt's area. You can see nuclear stations in the middle of large cities in Germany such as Bonn, Frankfurt, Cologne, and others.

As for Austria, whose people rejected the construction of nuclear plants in a referendum, their special situation calls for a departure from mainstream opinion. Austria is a small country with a population of 7.5 million. Its population is gradually declining and will decrease by half a million over the next 20 years. The president of the country has encouraged childbearing. When a mother bears her fifth child, the president adopts the child and grants the child unlimited privileges. In addition, the annual per capita share of energy in Austria has reached approximately 6,000 kilowatt-hours versus 500 kilowatt-hours and $500 per capita in Egypt. How can a state with a strong infrastructure be compared to ours when we are just starting on the development process?

With regard to the disposal of nuclear waste, there are now plants to treat the waste and extract plutonium 238 from it. The waste can then be exported or buried in the oceans or in the deserts, which are unlimited in Egypt.

Still to be discussed are the economic aspects and matters pertaining to Egypt's strategic security. These topics will be dealt with in our next article.

[24 Dec 84 p 9]

In the previous article, we said that Israel may be pleased with the interpellation conducted by the Wafd Party aimed at putting pressure on the government and public opinion to stop the construction of nuclear power generating stations. This action spares Israel huge political efforts and reduces the unceasing efforts of its intelligence bureaus and security organizations. These Israeli organizations want Arab capabilities--particularly those of Egypt--to be sapped so that we will remain backward in nuclear power technology, even for peaceful purposes.

In this way, the Wafd Party has unwittingly joined forces with Israel's security goals, which call for the marshaling of all resources to ensure that Israel remains the sole possessor of nuclear deterrent weapons in Middle East. To this end, Israel monitors the nuclear activity of the Arab states with untiring attention. In fact, Israel monitors the capabilities of Arab scientists in the field of nuclear energy and related sciences. We witnessed the death in the United States of one female Egyptian scientists who specialized in this field. This was followed by the assassination of Dr al-Mashd, the Egyptian atmoic scientist, in a hotel in Paris. He had been working in Iraq's nuclear program aimed at peaceful purposes.

The Big Question

The big question here is if the Egyptian nuclear program is planned for peaceful purposes, whether for scientific research or for power generation. Egypt has signed international accords against the use of nuclear reactors for non-peaceful purposes. It has accepted the monitoring of the International Nuclear Energy Agency in Vienna and the international community has confidence in Egypt's signing of all these agreements. Why, then, do we place such emphasis on the position of Israel? There are two reasons.

The first is psychological. Distrust and fear are part of Israel's strategy. The distrust was compounded by the 1973 war, in which Israel suffered more than 12 [as published] men killed and wounded and lost the best of its aircraft and armor. Israel believes that its strategic security transcends its borders to encompass a triangle formed by Pakistan on the east, Aden on the south, and Algeria on the west. Israel concentrates on monitoring the nuclear activity of Egypt, Iraq and Libya.

The second reason relates to security and to science from the theoretical standpoint. The acquisition of nuclear reactors to generate nuclear power is viewed as the first and major step toward nuclear industries that could subsequently be used for military purposes.

The French scientist, Francis Berne, says that nuclear reactors, like money, can be used for good or for bad, that is, for peaceful or for military purposes.

The American nuclear scientist, Theodore Tyler, has said: "We must put an end to the spread of nuclear power reactors, which now exist in 50 countries, because they are the beginning of a nuclear weapons industry."

To give a basic idea, there are various types of nuclear reactors for power generation, some using light (ordinary) water and others heavy water (or graphite) as a cooling medium. The fuel used is 4-percent enriched uranium 235. Inside the reactor, continuous nuclear fission takes place, controlled by complex safety systems. The fission produces large amounts of steam which is used to drive electric power turbines by the means employed in conventional power stations. The scientific fear is that it is possible to enrich the uranium 235 to 80 percent or to extract plutonium 239 from the nuclear waste in special plants, and both of these elements can be used for making nuclear weapons.

This is what prompted Israel to launch an air raid against the nuclear generating reactors in Iraq in June 1981, despite the fact that the facility was not equipped with plants to treat the waste or enrich the uranium to a high grade. This was also the reason for Israel's assassination of the Egyptian nuclear scientist, Dr al-Mashd, in Paris as mentioned earlier.

BUSINESS WEEK of 14 April 1980 published an article on the nuclear activity of the Arab states. The article stated:

"An Israeli official told us: 'We follow any Arab nuclear activity, discover its secrets and hidden aspects, and prepare to strike and destory it. The Israeli central intelligence agency, Mosad, will be busy for many years in operations aimed at thwarting and impeding the nuclear programs of the Arab states.'"

What I am writing is not intended to reveal secrets or show intentions. Rather, it is a modest attempt to shed light on public opinion concerning one of the most critical national issues. It is not aimed at defending the government or taking sides with the National Party in an interpellation carried out by the opposition. Rather, it is first and foremost a national duty on behalf of Egypt.

Buying a nuclear power reactor is not a commercial transaction eagerly sought by the producing companies. President Jamal 'Abd-al-Nasir, and after him Sadat, tried repeatedly to get one, but the Soviet Union refused to agree to Egypt's request beyond giving us a small, 2 megawatt thermal research reactor. Nor did the West--the European states or the United States--respond. The sale of a nuclear reactor is a political decision made by the state exporting the reactors and is subject to international considerations of far-reaching complexity. Egypt was unable to penetrate this nuclear blockade imposed upon it until after the peace agreement with Israel and the signing of multilateral international treaties. On this basis, Egypt was able to conclude agreements with the United States, France, Germany and Canada for nuclear cooperation for peaceful purposes and power generation.

The issue now is this: Will Egypt remain cut off from scientific progress in energy technology, even though it has one of the largest scientific establishments in terms of experts and scientists? Or will we stay mortgaged to Israeli fear and arbitrariness, which Israel imposes upon us? Will Israel continue to have sovereignty over us, not hesitating to leak articles and information to the international information media to make us fearful of the dangers of these nuclear stations so that we swallow the bait unwittingly?

The Arab states have become alerted to this serious issue, which was discussed for the first time in the Foreign Minsters Conference of 1961 and was recognized by the First Arab Nuclear Engery Conference held in Damascus in June 1981. This conference stressed the necessity of introducing nuclear energy intensively in the Arab world so that the Arab states can obtain alternative energy sources to replace oil, which will run out in the near future. The conference urged the construction of nuclear power stations as an alternative to oil. Among the states attending the conference were Saudi Arabia, the UAE, and Algeria, all of which produce huge quantities of oil. But what about Egypt, which will consume all of its oil production and will probably become an oil importer before the year 2000--that is, in 15 years?

Can Egypt be left to import both food and oil? There will be a disaster if we do not formulate a timely program to develop alternative energy sources, including nuclear power stations. The president has called attention to the energy issue and the necessity of directing its use.

We will complete this discussion in the next article, God willing.

[31 Dec 84 p 9]

[Text] At a time when debate is taking place, and seminars and conferences are being held concerning the benefits of nuclear power generating stations, and while some are engaged with good intention in inflating the dangers and minimizing the advantages, Israeli Prime Minister Shimon Peres traveled to Paris 2 weeks ago. The surprise of the visit was the French administration's agreement to sell two Framatome nuclear power reactors rated at 950 megawatts thermal each. The value of the deal was $3 billion, and France promised to provide financial aid to finance it. An Israeli scientific delegation will visit France this month to put the finishing touches on this deal, which was concluded with unaccustomed ease. The two sides agreed to strengthen joint scientific research through the French Industry League. This will give Israel four nuclear reactors for military and peaceful purposes with a combined output of 1,932 megawatts thermal, while we own only one 2-megawatt reactor and there is one other like it in Iraq. In other words, all the Arab states combined own only two reactors with a total capacity of 4 megawatts thermal. I do not believe that Israel is suffering from foolishness and stupidity becuase the lives of its citizens are exposed to danger, and the Israelis live in a confined area of land. Nor do I believe that they are threatened by the growth of their debts--which have reached $24 billion--or by economic risk because of the conclusion of such a huge deal.

They will close the file they have opened and they will avoid wasting effort that could lead us into a dangerous slip; we did not see a general uproar in the Israeli Knesset when the Israeli-French agreement was announced. Nor did we see the Israeli opposition and the party press rise up to attack the government and put pressure on the public opinion or carry out interpellations. Do we have to learn from Israel, dear brothers?

In reproof of the honest man and wise politician, President Mitterand, we ask: Is it a coincidence that a socialist government in France during the time of Guy Mollet gave a 26-megawatt thermal reactor in 1957, and then the same thing recurred during a socialist government under the Mitterand presidency with France's giving of the two reactors to Israel in 1984?

We may understand that in the first case it was a surprise to Israel because of its participation in the trilateral aggression, and after that it was a policy of DeGaulle and subsequently of the French Right in the D'Estaing administration to limit nuclear and military cooperation with Israel because of its refusal to implement the UN resolutions.

There is no doubt that Egyptian diplomacy will not allow this matter to pass by unchallenged, especially since Egypt and France maintain extensive political and economic cooperation in a variety of fields. I do not say that we have the power to undo the agreement that has been made between France and Israel. However, we do have many cards, the first of which are to demand reciprocity and to call for these reactors to be placed under international supervision, which Israel rejects. We place our confidence in the effectiveness of Egyptian diplomacy to bring about a reconsideration and put together the unlimited cards, and God will take care of things.

The Contemporary Sciences and the Big Race

When the state of Israel came into existence, we said that the Arabs were 100 million strong and time was with us. We are now 22 states and 190 million people, and Israel is taking advantage of time while we waste it in accusations, plots, assassinations, and sterile theoretical argument.

The foundation of the Arab-Israeli struggle has not become population and numbers but first and foremost the insane scientific race which knows no pity or neglect. The contemporary sciences are nuclear energy, computers, and the like, and he who has mastery over these sciences holds the upper hand. Or at the least we guarantee strategic balance so that the politics of the fait accompli to which the international community is subject does not become the ultimate end. It is this type of politics that Israel is implementing in stages with skill and acumen in the Middle East region.

I am confused at the behavior of some of our distinguished scientists, who participate in conferences and attack the nuclear program in Egypt. I ask them with all innocence and good intention: What is the fate of the sciences that they teach our children in the colleges--chemistry, physics, mathematics, and nuclear engineering? Where will there be opportunities to use these sciences in practical applications? Will we be content to spend millions and then send these young experts to foreign states or other Arab states after they obtain their distinguished and rare scientific degrees?

Nuclear Construction in Israel

Experts agree that Israel has become one of the most advanced states in the nuclear sciences and owns the largest arsenal of nuclear weapons in the Middle East. The Israeli nuclear program began from the first day of its

birth in 1948 and was subject to the most stringent kinds of secrecy. When some information about its activities leaked out, we said it was psychological warfare that Israel was waging against us. Israel was happy with this because (we) remained asleep.

Israel built its first reactor in Nahal Soreq for research purposes with the assistance of the United States. This reactor was subject to formal oversight. However, Israel's opportunity came after the trilateral aggression when it received a large, 26-megawatt reactor from France that was erected in Dimona. France exempted Israel from inspection and oversight provisions in this case, and Ben-Gurion announced that there was a textile mill in the Dimona area. Israel was able to obtain highly enriched uranium from the United States. The uranium was initially supplied at the rate of 6 kilograms per year, and this amount was later increased to 8 kilograms per year. Then Israel built a plant to extract plutonium 239 from the nuclear waste economically. These are the two materials necessary to manufacture nuclear weapons.

Israel was not satisfied with this, and so the Mosad carried out the infamous uranium thefts, including 200 tons from a German steamer in 1968 followed by 360 rotls of enriched uranium from a plant in Pennsylvania in the United States. This gave Israel sufficient material to manufacture nuclear bombs. After that it developed Jericho rockets to carry nuclear warheads along with a nuclear launch system. The military nuclear activity was placed directly under the prime minister and the secretary of defense. All flights were forbidden over the area of Dimona. Golda Me'ir issued orders to attack the civilian Libyan plane in savage fashion in 1973 because she was informed that the aircraft was circling over the Dimona area when it had lost its way. Israel relied on several factors in its scientific progress in nuclear energy, including:

1. The acquisition of technology, equipment, and raw materials in cooperation with a number of states, including France and the United States.

2. The gathering of information by illegal means through Jewish scientists specializing in energy sciences in America and Europe.

3. The use of the Mosad in the theft of plans and raw materials needed by Israel.

4. Domestic scientific capabilities and research centers in Israel.

The American CIA submitted a secret report to the Congress in 1974 in which certain information was circulated. This report said: "Israel has actually produced nuclear weapons in view of its possession of large quantities of enriched uranium. It has also built transport and launch systems capable of carrying nuclear warheads. The Agency believes that Israel will use these weapons if its existence is threatened."

It is established fact that in 1979 an American spy satellite detected a nuclear explosion above the Indian Ocean. This was the result of a test conducted by Israel in cooperation with the racist government of South Africa.

When Mr Richard Allen, national security advisor during President Reagan's first administration, visited me in the People's Assembly, I asked him what would happen because of Israel's ownership of nuclear weapons. He answered that the nuclear genie had escaped from the bottle, and that there were a number of states that either owned nuclear weapons or could manufacture them whenever they wanted, such as Brazil, among others.

This does not mean that I have reviewed the nuclear capability of Israel so that Egypt will join the nuclear club. Rather, I reemphasize the belief that it is not within our power to bargain over the use of nuclear energy for peaceful purposes within the framework of our stated policy and program.

And now, what statements do you deny?

If you are ignorant of all of this, that is a problem.

But if you know and object, that is a bigger misfortune and some discussion remains.

8591
CSO: 5100/4604

N-ENERGY DEPARTMENT PLANS TO RAISE POWER OUTPUT CAPACITY

Bombay THE TIMES OF INDIA in English 15 Jan 85 p 8

[Article by K. C. Khanna]

[Text] THE Centre has just given the amber light to the department of atomic energy's ambitious plan to raise the installed capacity for generating nuclear power from about 1035 MW at present to 10,000 MW by the end of the century. The programme, which will cost the staggering sum of Rs. 13,900 crores (at 1983 prices), was cleared by a committee of secretaries, presided over by the cabinet secretary in the last week of December. If Mr. Rajiv Gandhi's council of ministers finally approves it, as is likely, it will be tantamount to an irreversible national commitment to pursue the path chosen by the DAE. The penalties for cutting the allocations in the future will be so heavy that neither this nor any successor government will lightly do so.

The DAE's plan envisages the construction of 12 new 235-MW reactors of a standard design and ten more of 500-MW capacity in addition to the eight that have been either already commissioned or are under construction at Tarapur, Kota, Kalpakkam, Narora and Kakkrapar. It argues that new reactors must be built in a series and put up in clusters of three or four at selected sites to reduce costs and shorten construction schedules. This is how even some of the industrially advanced countries like Japan, France and the USSR have managed to save enormous amounts of money and time. In India, the nuclear power industry has only recently got over the "learning curve". It cannot prosper unless it is assured of bulk orders.

The stakes are high. Under the DAE's plan, work on all the twelve 235-MW and as many as six of the ten 500-MW reactors, as also the related facilities for fuel fabrication, the production of heavy water, waste disposal and so on, will commence in the Seventh Plan itself. The total outlay during 1985-1990 will be as much as Rs. 3800 crores or nearly a fifth of the aggregate allocation for the entire power sector in the Sixth Plan. A good deal of investment will be made, moreover, by private and state-owned firms in tooling for large reactor components like calandrias, end-shields and pumps as well as for heavy cranes, earth-movers, automatic welding machines and so on. Once they are so equipped, and assembled the skilled manpower to match, they are bound to do all they can to hold the government to its plighted word.

Technical Advantages

That is why the DAE's plan and cost estimates have been subjected to a searching scrutiny at various levels and it has taken more than a year for the committee of secretaries to make up its mind. In 1980, the DAE had drawn up a similar plan to achieve the same target by 2000 A.D. but it was shot down by the Planning Commission on the ground that the department and industry would not be able to master the requisite technology due to the ban imposed by the U.S. and other members of the "London Club" on the export of know-how and a wide range of nuclear-grade materials. Against an outlay of Rs. 2,470 crores then sought by the DAE to "seed" its scheme during 1980-85, Yojana Bhavan sanctioned barely Rs. 1,050 crores. Nor has it been easy since for the DAE to set Yojana Bhavan's doubts at rest.

For a start, the DAE has spent ten to 13 years to put up the natural uranium, heavy water reac-

tors of the type that it is now planning to build in a series. The costs have doubled or tripled in consequence. Technological and other problems have dogged some of its heavy water plants for years. The planners have also been wondering whether the existing grids can absorb large blocks of power that the DAE's proposed cluster of plants will generate at selected sites. Above all, until about a month ago, they were not sure whether it would not be cheaper and quicker to set up conventional coal-fired thermal power stations instead.

Of late, however, the DAE has achieved several technical advances. The first unit of Madras Atomic Power Project (MAPP-I), wholly designed, built and commissioned by its scientists, has performed pretty well for a whole year: its plant load factor (PLF), a measure of capacity utilisation, has been as high as 70 per cent. Secondly, the output of the DAE's two heavy water plants at Baroda and Tuticorin has been running at the rate of 40 tonnes a year, or nearly two-thirds of their rated capacity compared with only a fraction of that much in the earlier years. Thirdly, some private firms like Larsen & Toubro and Walchand Industries, thanks to the DAE's aid and encouragement, have been delivering heavy equipment for nuclear power stations abuilding at Kalpakkam (second unit), Narora and Kakkrapar in half the time they took to supply the same items for the second unit of the Rajasthan Atomic Power Project (RAPP-II) at Kota.

Nuclear Option

The relative costs of nuclear and coal-based thermal power are difficult to estimate but the DAE's claim that the former would be much cheaper has at last been accepted with some reservations by the expert groups of both the Central Electricity Authority and the Project Appraisal Division (PAD of the Planning Commission. The DAE has been contending that the capacity utilisation of NUKES should be assumed to be 75 per cent over their lifetime while for the thermal stations an average of 63 per cent would be the best that could hoped for. Until a year ago none of the NUKES and very few of the coal-fired power stations had worked to these capacities for a whole year. Thanks to the creditable performance of MAPP-I during the 12 months of 1984, however, the DAE's claim has become a lot more credible.

At any rate, the Central Electricity Authority in its techno-economic justification studies has concluded that notionally the average cost per unit of nuclear power over the entire life of the plant will be about 64 paise (at 1983 prices) compared with around 75 paise for thermal power if the coal-fired station is located at a distance of 1,250 kms or more from the pithead. According to the PAD, both these figures would be somewhat higher: 75 paise and 89 paise per unit. Though a NUKE will take eight years to build and a thermal station two or three years less, the CEA and PAD, on balance, find the nuclear option attractive. They also say that there will be no difficulty in integrating nuclear stations with the existing grids and that it should be possible to use them for meeting the base loads to take advantage of their higher reliability.

Be that as it may, the DAE is expected to sell electricity worth Rs. 180 crores to the grids during 1985-86 compared with only about Rs. 130 crores this year. Part of the increased turnover will be accounted for by the expected rise in the price of power it charges from the utilities. The resumption of supplies within a few weeks from unit-I at Kota, after a prolonged closure, and the commissioning of MAPP-II, after another delay of nearly eight months, will, however, make the major contribution. All said and done, the price that the DAE now charges from the utilities for the electricity it supplies from Kota (35.5 paise per unit), Tarapur (25.8 paise) and Kalpakkam (42 paise) compares very favourably with the rate at which the Maharashtra State Electricity Board, for instance, sells power in bulk to the Tata Electric Companies at bus bar: 60 paise. What is more, the nuclear stations generally make a tidy profit on their operations.

Blessing In Disguise

The main considerations that appear to have weighed with the committee of secretaries in approving the DAE's plan, however, are not economic but strategic. It recognises the need to diversify the sources of power supply, particularly for base loads. Mining of coal and carrying it over long distances are both expensive and messy. Nor is the creation of the requisite facilities likely to take much less than the eight years required to put up a nuclear power station under the DAE's plan. It is true that India has large proven reserves of low-grade coal and more of it is being discovered by the Geological Survey all the time. Even so, the country, like the rest of the world, must look ahead.

In almost every advanced coun-

try the share of nuclear power in the total power supply is increasing for the simple reason that the stocks of fossil fuels the world over are limited. Besides, India must secure a large inventory of plutonium from its heavy water reactors to make use of its large reserves of thorium, an excellent fertile material, to fuel a new generation of efficient fast breeder power reactors in the next century. An experimental 15-MW fast breeder test reactor, abuilding at Kalpakkam, is expected to go critical by the middle of this year.

Indeed, the government was in such a hurry to harness nuclear energy to the tasks of development that early last year it seriously considered the import of two 440-MW power reactors from Russia for installation at Tarapur. Though their cost, net of import duty, would have been about 40 per cent cheaper than that of indigenously built stations of equivalent capacity, the proposal has since been virtually given up. The Soviet Union, as a member of the "London Club" sought to impose safeguards on the two units against nuclear proliferation which were so stringent as to be politically unacceptable. The idea was entertained in the first place because the indications earlier were that Moscow would be more flexible than the Western powers in negotiating "pursuit and perpetuity" clauses of the safeguards regime. But, eventually, it belied that hope.

Many scientists and technicians in India's nuclear energy establishment regard the outcome as a blessing in disguise. For, it has, in a way, vindicated their belief that there is really no substitute for do-it-yourself in this demanding technology. In fact, the decisive reason why the committee of secretaries has approved the DAE's plan is that the single-minded pursuit of self-reliance in the field of nuclear power will generate new skills and capabilities which will go a long way towards modernising Indian industry as a whole in the coming decades. It has even suggested that if the available resources for the power sector in the Seventh Plan are inadequate, the coal-fired stations, not the NUKES, should first bear the brunt of the consequential cuts in plan allocations.

CSO: 5150/0024

BRIEFS

IAEA ROLE DISCUSSED--NEW DELHI, February 12--A series of consultations on India's role in the International Atomic Energy Agency (IAEA) and the United Nations Industrial Development Organisation (UNIDO) ended tonight, following which the Indian Ambassador to Austria, Mr. S. K. Singh, who came here for discussions, left for Vienna. These discussions took place in view of the forthcoming meeting of the IAEA board of governors in Vienna, which would be followed by the non-proliferation treaty (NPI), review conference in Geneva, and the impending conversion of UNIDO from a semi-autonomous wing of the U.N. into an independent organisation like the International Labour Organisation (ILO). During his ten-day stay in New Delhi and Bombay, Mr. Singh met the Union minister for industry, Mr. Veerendra Patil, the chairman of the policy planning committee, Mr. G. Parthasarathy, the chairman of the Atomic Energy Commission, Dr. Raja Ramanna, the foreign secretary, Mr. Romesh Bhandari, and officials in the Prime Minister's secretariat. Having refused to sign the NPT, India has consistently declined to take part in conferences for its five-yearly reviews, and this policy remains unchanged. [Text] [Bombay THE TIMES OF INDIA in English 13 Feb 85 p 9]

RESEARCH CENTER VISITOR--BOMBAY, February 14--The Polish Prime Minister, Gen. Wojciech Jaruzelski, and members of a high-level delegation from Poland visited the Bhabha Atomic Research Centre and attended a banquet hoisted by the governor, Mr. I. H. Latif, at Raj Bhavan during their visit to Bombay today. Mr. Jaruzelski was earlier given a red carpet welcome when he arrived here from Madras by a special aircraft. He was received at the airport among others, by Mr. Latif and the chief minister, Mr. Vasantrao Patil. The visiting prime minister and the 35-member delegation will leave for Warsaw tomorrow morning. [Text] [Bombay THE TIMES OF INDIA in English 15 Feb 85 p 3]

CSO: 5150/0033

ISRAEL

PERES ENVOY HOLDING CONTACTS ON FRENCH NUCLEAR REACTORS

TA261248 Tel Aviv DAVAR in Hebrew 26 Feb 85 p 2

["Exclusive" report from France by Gid'on Kuts]

[Text] Paris--Asher Ben-Natan, Prime Minister Shim'on Peres' special adviser, is conducting contacts in Paris on Israel's procurement of French nuclear reactors.

Ben-Natan is holding a series of meetings with technical-level people in the French presidential office, the Research and Technology Ministry, the Economy, Finance and Budget Ministry, and the French Nuclear Energy Agency. Among others he is scheduled to meet with President Mitterrand's special adviser Jacques Attali who held talks on this issue in Israel not long ago, as well as with the president's technical affairs adviser, Charles Salzman.

Knowledgeable French sources said that the French Economy, Finance and Budget Ministry is now preparing a detailed proposal for the supply to Israel of a reactor for the production of thermonuclear energy. France's LIBERATION reports that the procurement issue "has already been concluded" thanks to the particularly good terms France is offering but Israeli sources said Israel was continuing to look into the rentability of the deal.

CSO: 5100/4503

PAKISTAN

LEGAL, OTHER ASPECTS OF ALLEGED INDIAN PRE-EMPTIVE STRIKE

Lahore THE PAKISTAN TIMES in English 2 Mar 85 p 6

[Article by Dr S. Farooq Hassan]

[Text] **In the light of fast changing developments in the international scene it is necessary to briefly examine the recent news about the leaking of Indian Government secrets, including the possibilities of an Indian attack on the nuclear facilities at Kahuta near the Federal Capital of this country.**

To begin with it should not come as a surprise that given the background of Indo-Pakistan relations over the years, including the yet unsolved Kashmir dispute, India may not look with approval towards the acquisition by this nation of nuclear facilities for peaceful purposes. Accordingly, in theory, such thinking on the part of the Indian Government could always be expected. As such, all that the leakage of the Indian State secrets has done is to fortify the apprehensions that Pakistan has to constantly stand vigilant in the defence of its territorial integrity and its sensitive installations.

Self-defence

Why such vigilance is necessary will become clear when we examine even laconically the "law" and "realities" which revolve around the possibilities of a surprise attack of the nature described above. The first principle of International Law which comes to mind is the one concerning the law of self-defence. In classical law of nations, by this doctrine a State could take defensive measures if its territory had been attacked, further, that self-defensive measures should be proportionate to the aggression or hostility in question. The most emphatic enunciation of this classic principle in modern times was given in the The Caroline case between Canada and the U.S. relating to an incident of 1837. In this century both the Covenant of the League and the later Kellog-Briand Pact attempted to curtail war in more emphatic terms. When the Second World War ended, the Charter also called for a prohibition on the use of force. Article 2(4) states clearly that members shall refrain from the use of force against the territorial or political independence of other member-States.

Article 51

While admittedly the complexities of the international law of force or self-defence cannot be gone into in their entirety in this very brief presentation, still a mention of Article 51 of the Charter is necessary since it purports to

allow to States their inherent right of self-defence.

Some writers have argued that this pertains to an "actual armed attack"; in other words the right to self-defence only arises if a country has been attacked. But a considerable body of juristic opinion, including that of Bowett, amongst the two leading contemporary authorities on the law of the Charter, asserts that Article 51 was aimed to acknowledge, not to restrict the States' right to self-defence.

This point was examined by me, since in the last two decades more than once it has happened that even without an armed attack countries have attacked other States on one pretext or another, of in effect acting in self-defence. According to this argument, while traditional means of armed warfare allowed States to act AFTER they had been attacked, modern means of technology had changed that conception altogether. It is said that with the advent of nuclear and long-range missile weaponry the State about to be attacked would have no time in which to defend if attacked first. As such, it is emphasised that "a pre-emptive" first strike is allowable.

It is not the purpose of this short article to enter into the above controversy authoritatively. Books and numerous learned articles have examined this issue already. All that is aimed at by this author by adverting this point is to stress that under existing interpretations of the relevant law, India might well have attacked Pakistan's nuclear facilities, and justified its initial action under the above rationale. After all Israel did this precisely against Iraq over three years ago by flying across other countries in the process.

Quite apart from the law focussed upon above, a word might be in order about the realities of such a scenario. If in fact such an attack does take place, the recourse to law is then essentially irrelevant. The damage having been done, there is little solace in knowing that one has been illegally so invaded. Most agreed at the U.N. that the attack on Iraq's nuclear facility was unlawful, but that was of little practical value to it in realistic terms.

The "leakage"

Accordingly, the moral of this kind of issue is to beware of an initial strike. All efforts in this direction that one is capable of mounting should be put into effect.

As far as Pakistan is concerned, it should feel very lucky that the possibility of such a happening came to light partly through the agencies of friendly countries and secondly, accidentally. Initially, the U.S. apparently through the help of its aerial reconnaissance done by the C.I.A. was able to guess that this kind of action might be in Indira's mind a few months ago. This information was 'leaked' (whether wilfully or not) to us. Then came the Indian spy scandal. It appears that basically four countries, which had been competing for possible Indian arms purchases, had been obtaining information of that Government's planning of its military needs. Unofficially at least France, U.S.S.R., East Germany and Poland have been identified in this quest. Some reports also include U.K., U.S., and the Federal Republic of Germany in this affair.

Alert necessary

Be that as it may, the publicising of this matter, so far as Pakistan is concerned, is purely a matter of accident. What we know so far from Press reports is that the stolen documents from the highest Indian officials included details of the Kahuta nuclear plant. So far as we know in this country, the Indian Government has apparently up to now not contradicted any of these reports that have been referred to above. As such, at the moment of writing it can be fairly reasonably concluded that plans did exist in India's military planning of perhaps one day launching a "pre-emptive" strike on the above named installation. In view of this matter it is evident that we should be very watchful of our security and national interests. Next time we may not be that lucky that such information which this time came to us accidentally, might be forthcoming again as it were, by Providence.

By the way, it is alright to bank upon occasional "leakages" and "spy scandals". What about our own sources of intelligence? In more settled countries like the U.S., a failure of local intelligence in such matters would have immediately resulted in a Congressional inquiry. Unfortunately, as we do not have any representative institutions in operations right now which could do this kind of work, it is incumbent upon our Government to do so itself.

CSO: 5100/4730

SOUTH AFRICA

KOEBERG NUCLEAR PLANT CLOSED 'FOR INSPECTION'

MB220722 Johannesburg Domestic Service in English 0600 GMT 22 Feb 85

[Text] The senior general manager of ESCOM [Electricity Supply Commission], Mr I. D. van der Walt, said in Johannesburg that the Koeberg nuclear power station would remain closed for at least another 2 months. Mr Van der Walt's statement came after ESCOM's announcement on 21 January to the effect that the number one reactor at Koeberg is being closed down for inspection.

Mr Van der Walt said that the shutdown posed no hazard to the public or to the operating staff. Despite economic considerations, he said that the decision to shut down the reactor had been taken in accordance with ESCOM's safety standards. Inspection was being done because of the appearance of ion particles in the second reactor.

The antinuclear body, Koeberg Alert, has called for a detailed and public assessment of the faults at the station. A spokesman, Mr (John Venn), said in Cape Town that Koeberg Alert deplored the vagueness of the ESCOM statement. He said ESCOM had informed him that the removal of fuel elements was being contemplated, and that this indicated that the problem was serious, and a cause for concern. Mr (Venn) called for the closure of the station, pending an inquiry into its safety.

CSO: 3400/15

SOUTH AFRICA

URANIUM ENRICHMENT PLANT TO OPERATE BY 1987

MB271325 Johannesburg SAPA in English 1214 GMT 27 Feb 85

[Text] Pretoria, Feb 27, SAPA -- South Africa's first uranium enrichment plant, near Pretoria, will come into operation by 1987, the Atomic Energy Corporation's executive chairman, Dr J.W. de Villiers, said today.

Dr de Villiers released a statement in Pretoria in which he reacted to recent news reports about the Valindaba plant and international fuel purchases by ESCOM [Electricity Supply Commission] for its Koeberg nuclear facility.

He said ESCOM would have to continue buying its enriched uranium abroad until Valindaba, which started contruction west of Pretoria in 1978, was in production and was able to supply sufficient fuel for the commission.

The plant was progressing on schedule, Dr de Villiers said, and should be completed in the next two years.

Local feed material would be used at Valindaba to produce 300 TSWU (tons separative work units) per year, which the statement said was "enough to supply South Africa's domestic demand."

The final cost of the enrichment plant had not yet been calculated.

CSO: 5100/16

SOUTH AFRICA

STEYN ATTACKED OVER AFFAIRS OF ESCOM

Johannesburg THE CITIZEN in English 23 Feb 85 p 2

[Article by Vert Van Hees]

[Text]

CAPE TOWN. — The Minister of Mineral and Energy Affairs, Mr Dawie Steyn, has declined to react to calls by Opposition parties for a Parliamentary probe into the affairs of Escom.

The PFP spokesman on Enegry Affairs, Mr Roger Hulley, said it was "quite horrendous" that a brand new nuclear power station, apparently built under fail-safe inspection, should develop faults requiring it to be closed due to faulty stainless steel piping.

Piling up

Although Escom had given an assurance there was no danger to the public or the Koeberg nuclear station operating staff, because it had introduced the "most stringent" safety precautions in the world, the announcement of its closure less than a year after the power station came on stream would cause a storm of criticism.

It was being viewed in the light of other recent disclosures — that Escom has written off a R500-million cost over-run at Koeberg, that it faces losses of R300-million because of failure to cover its overseas deals against the fall of the rand, that it had lost millions of rands in other deals and the fact that it was allegedly defrauded out of millions by a former senior employee.

Mr Hulley said: "Quite apart from a safety aspect, the question that needs to be answered now is how much money is goind down the drain?"

He said the bad news about Escom seemed to be "piling up to a riddiculous degree now".

He would be tabling questions on the matter in Parliament, Mr Hulley said.

Reinforced

The PFP spokesman on Finance, Mr Harry Schwarz, said the latest Koeberg development reinforced demands for a full Parliamentary control of Escom.

"There is a tremendous amount of money invested in Koeberg, and this is public money because Escom is a public corporation. Escom should be accountable to Parliament in the same way that any government department is," he said.

The case for a complete investigation into the affairs of Escom grew stronger each day, he added.

Mr Schwarz said the PFP would "insist and persist on this issue".

The Economics spokesman for the Conservative Party, Mr S P Barnard, said it worried him that the MPs' had to read in newspapers what was going on.

"We have not been informed of Escom's losses and other activities," he said.

CSO: 5100/17

SOUTH AFRICA

ESCOM LOSSES DISCLOSED, ANALYZED

Johannesburg THE CITIZEN in English 21 Feb 85 p 2

[Text]

CAPE TOWN. — Escom has incurred losses of more than R57-million as a result of a cancelled contract for the supply of enriched uranium from the United States, the Minister of Mineral and Energy Affairs, Mr Danie Steyn, told the House of Assembly yesterday.

The extent of the additional losses would only be known once Escom's 1984 figures had been audited and approved by the members of the commission, he said.

The disclosure was made in reply to a question by Mr Brian Goodall (PFP, Edenvale).

Mr Steyn confirmed that Escom had already written off R56 782 000 in losses.

Explaining the background, he said that in 1974 Escom concluded a contract with an American contractor for the enrichment of uranium which would serve as fuel for the Koeberg nuclear power station.

Under the contract Escom had to supply the contractor with unenriched uranium for enrichment.

The American administration had prohibited the return to South Africa of the enriched uranium and consequently Escom had to obtain it from other sources. However, the unenriched material was supplied in order to avoid breach of contract by Escom.

About a year ago, Escom and the American contractor agreed to suspend the contract and Escom had since taken steps to dispose of the enriched and unenriched material.

Mr Steyn said losses were incurred as a result of the collapse of the uranium market and the high uranium prices to which Escom was contractually bound.

The losses were reflected in the fact that in the last quarter of 1984, as a result of "escalation", Escom was forced to pay R194,46 per kilogram for uranium while the current spot market price was R60 a kilogram.

Mr Steyn said that at the insistence of the external auditors, and with the knowledge of the Atomic Energy Corporation and members of Escom, a provisional amount of R59 317 000 was written off. This was reflected in Escom's 1983 annual report.

Senior officials of Escom had been aware of the situation.

Subsequently, steps were taken to minimise losses as far as possible.

Continuing, Mr Steyn said contracts on the local market for the supply of uranium were concluded in 1977 but, due to the suspension by USA of the enrichment contracts, the material was no longer needed.

The resale of the uranium at the present lower prices would incur further losses.

Members of Escom, including the senior general manager and other senior officials, were aware of these potential losses.

"The acquisition of uranium is of a long-term nature and economic factors of the 80s leading to the decline in world prices could not be foreseen in 1977," Mr Steyn said. — Sapa

CSO: 5100/17

SOUTH AFRICA

BRIEFS

KOEBERG COSTS--Escom's loss of R57-million--disclosed by Gert Rademeyer--was "peanuts" compared with the cost of the R1,8-billion Koeberg power station not operating. According to sources close to Escom, it was touch and go whether Koeberg would get going at one stage--and the spectacular loss was connected with its start-up. It may have been connected with the US refusal to sell enriched fuel rods to Escom. Koeberg's second reactor comes on stream in the next few weeks, after which it will reach specified output. Escom reported the matter to the Department of Mineral and Energy Affairs, Danie Steyn, but has been forbidden to disclose what happened. Rademeyer's disclosure now has Escom red faced. Escom hopes Mr Steyn will explain the loss to Parliament during the no-condifence debate. So far there has been a stunned silence on t..e matter. The loss amounts to 3,2% of the cost of Koeberg and 1,7% of Escom's sales of R3,3-billion in 1983. It was 16,4% of the R347-million profit before capital development fund provisions. [Text] [Johannesburg SUNDAY TIMES in English 3 Feb 85 p 1]

CSO: 5100/17

USSR

USSR AMBASSADOR ON NUCLEAR WASTE

AU211020 Vienna NEUE KRONEN-ZEITUNG in German 21 Feb 85 p 2

[Report by Dieter Kindermann on "exclusive interview" with Soviet Ambassador Yefremov on 20 February--place of interview not given]

[Text] Vienna--The nuclear waste storage for the [mothballed] Zwentendorf nuclear power plant should cost about 9 billion schillings, according to calculations made at the Trade Ministry. Vice Chancellor [and Trade Minister] Steger's energy expert, Volker Kier, has based his calculations on the offer made by CNEIC, the Chinese nuclear energy company. In an exclusive interview with NEUE KRONEN-ZEITUNG Mikhail Yefremov, Soviet ambassador in Vienna, refused to say whether Moscow would charge less, but declared with a smile: "For Austria it will certainly be the best and most expedient solution to deliver its nuclear waste to the USSR."

The CNEIC Chinese nuclear energy company has stipulated the following conditions for its acceptance of nuclear waste from the Zwentendorf plant: After the conclusion of the agreement, 2.9 billion schillings would have to be paid, with subsequent annual installments of 300 million schillings over a period of 20 years. Volker Kier of the Trade Ministry in this context: "This would amount to 7.3 groschen per kilowatt hour of power produced in Zwentendorf." In addition, it would be necessary to finance the police and technical security measures for shipping the nuclear waste to the PRC. This would mean a total of 9 billion schillings on top of the 8 billion schillings of construction costs and 550 million schillings of preservation costs.

Mikhail Yefremov, the Soviet ambassador in Vienna, yesterday [20 February] explained to NEUE KRONEN-ZEITUNG the 5-point Gromyko memorandum on the acceptance of nuclear waste from Zwentendorf as follows:

-- The Soviet Union will accept the burned-out fuel elements in the form of fuel cassettes, over the entire period of operation of the Zwentendorf nuclear power plant.

-- After processing the burned-out fuel elements must not be brought back to Austria.

-- The nuclear material produced from the burned-out fuel elements will be exclusively used for peaceful purposes. Potential exports by the USSR of such nuclear materials to other countries will be made in accordance with the directives of the IAEA INFCIRC/254 document.

-- Both countries will take all necessary security precautions for the shipping of the burned-out fuel elements.

-- Separate negotiations will be held on the financial conditions of the nuclear waste storage.

In his talk with NEUE KRONEN-ZEITUNG Ambassador Yefremov recalled the fact that the USSR is already accepting nuclear waste from Finland and other socialist (people's democratic) countries [as published]. He does not think that any complications would be caused by the fact that the Zwentendorf fuel elements were enriched in the United States. The Soviet ambassador also denied that Moscow's offer was a reaction to the Chinese offer submitted to Austria.

CSO: 5100/4

AUSTRIA

USSR AMBASSADOR COMMENTS ON NUCLEAR WASTE OFFER

AU211020 Vienna NEUE KRONEN-ZEITUNG in German 21 Feb 85 p 2

[Dieter Kindermann report on "exclusive interview" with Soviet Ambassador Yefremov on 20 February--place not given]

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CSO: 5100/2542

FINLAND

GOVERNMENT REMAINS DIVIDED OVER NUCLEAR WASTE FUNDING

Justice Minister Opposes Plan

Helsinki HELSINGIN SANOMAT in Finnish 7 Feb 85 p 3

[Text] Even after bickering back and forth for months the Cabinet could not come to a meeting of the minds on the matter as to where the funds to be set aside for the nuclear waste disposal would be deposited. The Cabinet however decided on Wednesday in an evening session to introduce the nuclear energy proposal at a Cabinet meeting within two weeks and then bring it before Parliament for its consideration.

According to the Cabinet majority the language of the bill indicates that the nuclear waste funds are to be collected by the state and earmarked for nuclear waste disposal. The fund is to be deposited with the Trade and Industry Ministry. The power companies are allowed to borrow back for their own use 75 percent of the amount deposited into the fund.

Justice Minister Christoffer Taxell (Swedish People's Party) still opposed this funding arrangement. Prime Minister Kalevi Sorsa (Social Democratic Party), however, took the position that the funding matter was not a concern of the government. Thus, Taxell can either voice a dissenting opinion also on the nuclear energy bill, or vote against the proposal.

The Center Party proposed in the evening session that the fund be deposited in the Bank of Finland. The Cabinet majority did not have any enthusiasm for this, as the bank does not want to accept the deposit.

Parliament to Decide Legislation

Helsinki HELSINGIN SANOMAT in Finnish 8 Feb 85 p 2

[Editorial: "Nuclear Waste Fund"]

[Text] Controversy over the shape of the nuclear waste financing delayed the presentation of the nuclear energy bill. A single item is of secondary importance from the standpoint of the requirement of legislative reform.

The attitude assumed by the large ruling parties toward a new money source is, to say the least, entertaining.

The state authorities have long hankered after a new distribution of the retirement pension funds. The nuclear waste fund likewise is seen as a new source of revenue. In this way the state reserves for its own use a share of the monies that in principle it has no right to.

The government is in a comfortable frame of mind in regard to the nuclear waste management as it is acquiring the right to use one fourth of the money accumulating in the fund. It is at the same time an expression of a lack of confidence to a certain degree in the financial stability of the nuclear power companies and the industrial concerns tied in with them. The nuclear waste program would surely preserve its real worth even without the involvement of the state fund.

Minister Christoffer Taxell deserves full recognition for his stand opposing the views of the Center Party and the Social Democrats on the nuclear waste funding question. They are now mapping out unprecedented purposes for the nuclear energy bill by laying plans for control of the fund. The accumulation of money for the purpose in question could have been corroborated also through the accounts of the nuclear power companies.

The Parliament will come to a final decision on the nuclear energy bill, which must assure a safe environment for people living in the vicinity of nuclear power plants. The radiation protection center, which must be accorded the best possible working conditions, is in practice in charge of this by virtue of its official position.

9655
CSO: 5100/2540

SWEDEN

REACTOR'S CORE COOLING SYSTEM PIPES REPLACEMENT NEEDED

Stockholm DAGENS NYHETER in Swedish 26 Jan 85 p 7

/Article by Gosta Karlsson/

/Text/ Cracks in the pipes of the cooling system in the reactors of the Oskarshamn 2 and Barseback 1 nuclear power plants, which were discovered last summer, have caused a need to replace the core sprayers in these reactors. Because there is a risk that the same damage could occur in Barseback 2, the core sprayer will be replaced there, as well.

Oskarshamn 2 and Barseback 1 are currently being operated with temporary braces around the cracks. This information is from the State Nuclear Power Inspection's /SKI/ activity report for 1983-1984.

After discovering widespread pipe cracks in Ringhals 1 in the spring of 1983, the SKI demanded extra investigations of all atomic boilers so that possible damage of the same type would be discovered in time.

During the investigations, a crack was discovered in a main line to the core sprayer in Oskarshamn 2. As in Ringhals 1, the damage is presumed to be caused by stress corrosion which mainly occurs in stainless pipes in atomic boilers.

Boiler Disease

According to SKI, stress corrosion occurs due to three interacting factors:

So-called tensile stress always occurs in a weld (the pipe segments in the weld pull each in their own direction).

The surrounding reactor water contains too much acid.

During welding the material is heated so long that the coal and the chrome in the steel is fused together, as especially seen in intergranular corrosion. One speaks of the steel "sensitizing."

That the reactor pipes receive cracks due to stress corrosion is usually called "boiler disease." Damage corresponding to that in Oskarshamn 2 was also discovered in Barseback 1.

While waiting for a permanent solution to the problems involving the core sprayers, SKI has approved the operation of the reactors with temporary "clamp braces" around the cracks. The only radical solution now considered is to replace the entire core sprayer in present reactors.

"The core sprayer is an important part of the safety system. It sprays the reactor if a drop in the cooling agent should occur for any reason," says Lars Gunnar Larsson of SKI. "One can assume that the same damage will occur in Braseback 2, as well. Therefore, we believe it is a good idea to replace the core sprayers there, too."

The replacement of the core sprayers will occur in 1986.

X-rays

Up until now, a total of 240 meters of pipe has been removed from Ringhals 1 since cracks in the weld joints due to stress corrosion were discovered.

Investigations by x-ray and ultrasound ("echo effect") only provide information on where the cracks are in the pipe system. The pipe segments which were removed are now being examined by microscope in laboratories.

The total electricity production from nuclear power plants came to 45 TWh (Terawatt hours) in fiscal year 1983-1984. This corresponds to 39 percent of the country's total electricity production.

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CSO: 5100/2539

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9 APRIL 85